

**A Thesis Submitted for the Degree of PhD at the University of Warwick**

**Permanent WRAP URL:**

<http://wrap.warwick.ac.uk/95598>

**Copyright and reuse:**

This thesis is made available online and is protected by original copyright.

Please scroll down to view the document itself.

Please refer to the repository record for this item for information to help you to cite it.

Our policy information is available from the repository home page.

For more information, please contact the WRAP Team at: [wrap@warwick.ac.uk](mailto:wrap@warwick.ac.uk)

*‘LIFE ITSELF’*  
*IN DORIS LESSING’S*  
*SPACE FICTION:*  
Evolution, Epigenetics and Culture

By  
Lara Choksey

A thesis submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy in  
English and Comparative Literary Studies

University of Warwick  
Department of English and Comparative Literary Studies

April 2017

# TABLE OF CONTENTS

Acknowledgements	iv
Declaration	v
Abstract	vi
Abbreviations	vii
INTRODUCTION	1
ONE. British Eugenics, Racial Hierarchy and Genetic Usefulness in <i>Memoirs of a Survivor</i> and <i>Shikasta</i>	30
Eugenic Governmentality: Whiteness and Multiculturalism	31
Whiteness in Crisis in <i>Memoirs</i>	39
Reconstituting Whiteness: Eugenic Pairing in <i>Memoirs</i>	48
Genetic Usefulness: Eugenic Imperialism in <i>Shikasta</i>	55
J. B. S. Haldane, Julian Huxley and Transhuman Supermen	63
Whiteness on Trial in <i>Shikasta</i>	70
TWO. 'Optimising the Workforce': Big Science and Soviet Biology in <i>The Sirian Experiments</i>	77
Big Science and the USSR: Context and History	82
Lysenko, Vernalisation and the Lombi Experiment	87
Genogeography and Crisis Management	92
The Lombis and Transgenerational Epigenetic Immunity	97
Evolution by Chance: The Lombis and Epigenetic Poiesis	103
Multicultural Inequality and Biosocial Ambivalence in Koshi	108
THREE. Epigenetic Poiesis and Queer Biosociality in <i>The Marriages Between Zones Three, Four and Five</i>	118
The Bioeconomy of 'Repro Ideology'	123
Bioeconomy in Zones Three and Four: Inheritance and Environment	129
Semiotic Adaptation and Reproduction	136

Zone Three as Spencerian Utopia	142
Al Ith as Queer Vanguard	148
 FOUR. Peasant Survival: The African Tragedy and Vital Politics in <i>The Making of the Representative for Planet 8</i>	 155
Constructing a Workforce: Canopus's Genetic Creations	165
Core Quake, Peripheral Tremors: The Nixon Shock	173
Core Retreat, Peripheral Extinction: US Recentralisation and the African Crisis	175
Peripheral Speculations: From Dead Labour to Vital Politics	178
Junk DNA and Jumping Genes: Epigenetic Responses to Climatic Change	181
Transcending the Centre: Two Journeys in Peripheral Extremity	189
Microscopes, Molecules and Peripheral Life	192
 FIVE. Interrupting Agents: Contamination and Intoxication in <i>The Sentimental Agents of the Volyen Empire</i>	 198
Spies and Proxy Wars	205
Shock Therapy: Rehabilitation, Madness and Politics	209
Multicultural Imperialism as Biopolitical 'Good'	217
Intoxicated Subjects	225
Pleasurable Melancholy: Interrupting Absolutes	228
Alliances of Intoxication	237
 CONCLUSION	 240
 Bibliography	 251

## ACKNOWLEDGEMENTS

I acknowledge my exceptional fortune in being supervised by Stephen Shapiro and Graeme Macdonald, and thank them for their encouragement, insights and guidance over the last three years. It has been a delight and an adventure to work with them.

I thank the Wolfson Foundation for their generous doctoral studentship, without which this project would not have been possible.

I thank Nathaniel Coleman and Michael O'Neill for reading over various parts of the thesis, and for their invaluable comments and suggestions.

I thank Guy Barker, Jose Gutierrez-Marcos and Robert Spooner in Warwick's Department of Life Sciences for their enthusiasm in sharing knowledge and ideas with someone from the other side of the woods. Thanks also to Dr Partho Sarothi Ray at the Indian Institute of Science Education and Research in Kolkata for early tutorials on epigenetics.

I thank the archives teams at the University of East Anglia and the Harry Ransom Center at the University of Austin, Texas, for all their assistance with their respective Lessing archives.

My time as a Visiting Scholar at the Institute for Comparative Literature and Society at Columbia University in Spring 2015 allowed eight precious months of dedicated library research. I thank Gayatri Chakravorty Spivak for her invitation and mentorship, and the graduate students and faculty members who participated in her seminar on *De la grammatologie*.

Thank you to my family, and to the friends and colleagues whose various strands of love and support have helped pull the thesis to completion.

~

This thesis is dedicated to Soli Khurshed Choksey (1921-2016), who knew that long journeys come with ghosts.

## DECLARATION

This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. It has been composed by myself and has not been submitted in any previous application for any degree.

Modified extracts of Chapter Three are published in:

Choksey, Lara. 'The Runaway Sign: Semiotic Adaptation in Literary Analysis.'  
*Sanglap: Journal of Literary and Cultural Inquiry* 2.1 (2015): 25-49.

Lara Choksey  
24 April 2017

## ABSTRACT

This thesis explores Doris Lessing's writing of evolution and genetics in her space fiction through two contexts: first, through a historical global crisis for capitalism in the 1970s following a temporary breakdown of post-war Euro-US financial hegemony; and second, through a philosophical shift in scientific discourse from an age of reductionism to an age of complexity or emergence. After almost two decades of writing realism, Lessing started writing what she calls 'space fiction' in the late 1960s in the final section of *The Four-Gated City* (1969), and she did not stop for over a decade, with *The Sentimental Agents of the Volyen Empire* (1983). Focusing on *Memoirs of a Survivor* (1974) and the *Canopus in Argos* series (1979-83), I argue that space fiction allows Lessing two modes of inquiry, the first based in realism and the second on speculation: first, to explore the human body as a political object, or the *biopolitical*; second, speculations on resistance to biopolitical governance through living ambivalently (not competitively), for the sake of metabolic survival, or *biosociality*. If biopolitics is enabled through reductionist constructions of 'the body' as a unit of analysis ('bio' signifying 'type' or collection of genes), then biosociality understands 'bio' as metabolic systems that extend between individuals, across species differentiations. The posthumanism of biopolitics leads towards transhumanism, while the posthumanism of biosociality is what Eugene Thacker calls 'peripheral life': 'life that is perpetually going outside itself'. The vehicle of this critique is what I call 'epigenetic poiesis'. I develop this term throughout the thesis to describe literary and cultural representations of epigenetic changes, using 'poiesis' to describe how these changes emerge through responses to chance events which put subjects out of equilibrium, enabling or forcing fast adaptation to changed contexts (a forced displacement to another planet, an arranged marriage, an ice age). Lessing's sf novels express modes of survival activated outside the restrictions of biopolitical control, chance responses to the end-game of a world-system that exploits, determines and tracks the bio-energy of the living matter under its dominion for the sake of accumulation and expansion. The novels also anticipate biopolitics under neoliberalism as a matter of data control, rather than the discipline of individuals. Throughout, the narratives disturb the construction of a liberal subject under capitalist modernity by staging a broader speculation on the intricacy, interdependency and interpretative activity of 'life itself' with regard to all kinds of material relations. The texts are literary engagements with what Nikolas Rose calls 'vital politics', both a reflection on the governmental co-option of life processes, and an exploration of the multifaceted dimensions of 'life itself' loosened from anthropocentric categorisations.

## ABBREVIATIONS

DNA Deoxyribonucleic Acid

RNA Ribonucleic Acid

I have used the following references for in-text citations of the primary texts:

MS *Memoirs of a Survivor*

S *Shikasta*

M *The Marriages Between Zones Three, Four and Five*

SE *The Sirian Experiments*

P8 *The Making of the Representative for Planet 8*

SA *The Sentimental Agents of the Volyen Empire*



We do not grow absolutely, chronologically. We grow sometimes in one dimension, and not in another; unevenly. We grow partially. We are relative. We are mature in one realm, childish in another. The past, present, and future mingle and pull us backward, forward, or fix us in the present. We are made up of layers, cells, constellations.

~ Anaïs Nin, *The Diary of Anaïs Nin*

I have dead ones, and I have let them go,  
and was astonished to see them so peaceful,  
so quickly at home in being dead, so just,  
so other than their reputation. Only you, you turn  
back: you brush against me, and go by, you try  
to knock against something, so that it resounds  
and betrays you. O don't take from me what I  
am slowly learning. I'm sure you err  
when you deign to be homesick at all  
for any Thing. We change them round:  
they are not present, we reflect them here  
out of our being, as soon as we see them.

~ Rainer Maria Rilke, *Requiem for a Friend*

I'm gonna lay down my heavy load  
Down by the riverside.

~ Anonymous Black Spiritual

## INTRODUCTION

Written in a decade of crisis for Western powers and renewed opportunity for the Soviet Union, Doris Lessing's space fiction – which I read from *Memoirs of a Survivor* (1974) to the *Canopus in Argos* series (1979-83) – connects a reductionist framework of evolutionary and genetic theory, deployed as a justification for competitive imperialism, to a speculative construction of the 'human' subject out of the complexity of life itself. The novels represent the disintegration of imperial wealth and reconstitution of a liberal subject in the post-colonial world order as a repeated narrative of violence and exclusion on the grounds of biological predestination. Her 'turn' to science fiction (sf)<sup>1</sup> enables Lessing to join up several realms of experience and to speculate on possible modes of change, not restricted to political action or socio-economic change. It also makes possible the simultaneous placement of different timescales – geological, meteorological, evolutionary, and historical – to depict fluctuating speeds of adaptation across different measurements of time with regard to material effects. The simultaneity of these timescales also enables the literary expression of what appears in the texts as 'gene memory': forgotten or silenced genetic material that is activated in moments of crisis out of a series of connected and interdependent responses between organism and environment. I call the literary representation of these responses 'epigenetic poiesis', developing the term throughout the chapters.

---

<sup>1</sup> General references to speculative and science fiction will be written throughout as 'sf'. Lessing's use of the 'space' fiction comes out of an attempt to distance herself from the writing of theoretical physics in so-called 'hard' sf, characterised, among others, by Arthur C. Clarke's sf. In the preface to *The Sirian Experiments*, she writes that while 'readers yearn to "believe" cosmologies and tidy systems of thought [because] we live in dreadful and marvellous times where certainties of yesterday disappear as we live [...] I don't want to be judged as adding to a confusion of embattled certainties' (SE 10). Calling *Canopus* 'space' fiction is partly a reaction against the expectation that she write about 'Red and White Dwarves and their Remembering Mirror, their space rocket (powered by anti-gravity), their attendant entities Hadron, Gluon, Pion, Lepton, and Muon, and the Charmed Quarks and the Coloured Quarks'; 'we can't all be physicists,' she reminds her reader, somewhat caustically (SE 12). I consider Lessing's *Canopus* novels as sf but also adhere to Lessing's description of them, understanding 'space' to refer to both 'inner' (mind/body) and 'outer' (extraterrestrial/environmental) space. She urges readers and reviewers to see *Canopus* as 'a framework that enables me to tell a beguiling tale or two; to put questions, both to myself and others; to explore ideas and sociological possibilities' (SE 12).

Lessing's novels register a change in the philosophical foundation of ontology in the direction of what physicist Robert Laughlin calls the scientific paradigm shift from the age of reductionism to the age of emergence. The implications of this shift are manifold, and constitute the philosophical undertaking of this thesis. If the age of reductionism is characterised not only by the way in which scientific knowledge has been deployed in society since the Enlightenment, but also has conditioned the parameters for experimentation and experimental subjects, then the age of emergence opens the possibility of radically altering the framework within which life is understood and managed at the level of community, society and government. Wendy Wheeler suggests that this would oppose first, the neoliberal formulation of the individual and the family, and second, what she calls the 'postmodern' idea that 'reality is constructed in language' (Wheeler 26-7). Complex systems theory and science 'provides us with a new way of thinking, not only about how complex systems work, but about how, in their biological manifestations and beyond, they are *inter-related*' (27). Following Wheeler's description, I read Lessing's space fiction as within this cultural paradigm shift in how 'life itself' is conceived.

The novels stage debates of the period around the epistemological constitution of life itself. While biological determinism pre-dates genetics, over the course of the twentieth century, the concept of the gene came to mark the parameters of life itself. Evelyn Fox Keller notes the enormous cultural impact of Francis Crick and James Watson's publication of the double helix as the structure of DNA, and life itself, in 1953. She writes that their announcement 'convinced biologists not only that genes are real molecules but also that they are constituted of nothing more mysterious than deoxyribonucleic acid', dispelling 'all remaining doubts about the material nature of the gene' (*The Century of the Gene* 3). From this point, she argues, 'the way was cleared for the gene to become the foundational concept capable of unifying all of biology' (*The Century of the Gene* 3). This initiated a move in biology to molecular genetics, replacing the focus of classical genetics on phenotypic expression of traits at a somatic level with investigations of the structure and function of genes at a molecular one.

Yet reducing life itself to genetic programming has, from the start, been controversial. While the new language of molecular biology – sequence and code over trait and linkage – continued to reduce life itself to substance over process, with DNA as the blueprint determining the organism from the point of conception, this has been increasingly contested by more complex accounts of development and inheritance in living systems. The novels' rendering of this shift is tied to social movements of the period: feminism, civil rights, anti-colonialism, radical science, and queer politics, exploring different modes of resistance to what seems like an immutable inheritance. They stage the difficulty of this resistance through, first, depicting the repeated constitution of power through the scientism of typological biopolitics, and second, at the incremental and near-impossible work of undoing this inheritance.

The novels also consider the social and political implications of unmooring the notion of a liberal individual from the essentialism of biological constitution. If the epistemological construction of the liberal subject has always been premised on the exclusion of others from participation or consideration in public affairs – human and non-human – then what might a re-conceptualisation of inheritance, property and adaptation imply for changing the parameters of what, in *The Human Condition* (1958), Hannah Arendt calls 'action', rather than mere existence (*bios*)? Lessing does not address these questions (only) at the level of ideology, but (also) across differentiated realms of experience. Resistance and change in the *Canopus in Argos* novels is not restricted to the domain of 'will' in the sense of collective or subjective determination or ideology; collective self-determination emerges as a spontaneous, unforeseen response to adverse or extreme environmental conditions that require speedy adaptation.

The imperial agents of the novels are always travelling *from* the core *to* the peripheries and semi-peripheries. By structuring their movement in such a way, Lessing effectively annihilates any narrative focus on the specific ambitions of the Canopeans, outside maintaining their own sovereignty and reproducing the technologies of their hegemony. The biopolitical determination and control over life itself, and the explicitly eugenic interests of her fictional ruling powers, represent the centrality of an ideal subject. The imperial core becomes what

Alvara Malainam, in a discussion of neoliberal imperialism, calls ‘a giant *biopolitical* machine for the *production of subjectivity*’ (478). This speculative imaginary is grounded in the reduction of human potential to biological programming, and the promise of a utopia of biological ‘goods’ – either based on an ‘originary’ ethnos (as in Iceland’s deCODE project and Nazi eugenics), or the cultivation of one (as in Soviet conditioning experiments and the interwar socialist British eugenicists).

Framing the Canopus novels as an archive positions these narratives as cultural memory, which – it is implied – will be transmitted to subsequent generations. The first page of *Shikasta* describes the text as ‘a compilation of documents selected to offer a very general picture of Shikasta for the use of first-year students of Canopean rule’ (S 12). In the logic of the Canopean universe, the novels are cultural artefacts produced for dissemination. Waste material of imperial history is incorporated into national narrative, compromised and partisan. Can the Canopean archive, comprised of the breakdowns, failures, anomalies and resistance to imperial rule, disrupt the constitution of empire enough to destabilise it entirely, to run it off the tracks? This is the question I consider throughout the thesis.

### **Genetic Determinism vs. Evolutionary Plasticity in the 1970s**

The alternative forms of genetic and biological change depicted in the novels, countering the determinism and atomism of Anglo-American biology, register a debate of the 1970s. This debate can be broadly summarised as determinism vs. plasticity in the appearance of sociobiology and of evolutionary psychology and their detractors. The reduction of human behaviour to selective transmission of genetic traits through natural selection was popularised in E. O. Wilson’s *Sociobiology* (1975) and Richard Dawkins’ *The Selfish Gene* (1976), among others. Without ever giving a definition of what he means by ‘behaviour’, in *Sociobiology*, E. O. Wilson argues for the genetic predisposition of certain social actors to particular kinds of behaviour. Girls, for example, ‘are predisposed to be

more intimately sociable and less physically venturesome', and anarchist theories of social organisation – he cites Mikhail Bakunin – would be 'biologically impossible' (133, 208).

There was resistance to Wilson's co-option of sociology and anthropology by a group of prominent Marxist biologists, led by Richard Lewontin and Stephen Jay Gould. *Canopus in Argos's* critique of reductionism applied to governmental policy can be contextualised with reference to this debate, which played out publicly and prominently in the letters section of *The New York Review of Books* from 1975-78. The Marxist biologists argued that there was a lack of scientific justification for 'the spurious promise of reducing such disparate fields as economics, government, and psychology to a biological science' (Gould et al. 'The Politics of Sociobiology'). In 'Against Sociobiology', the group contest Wilson's view of 'behaviour and social structure as "organs" – extensions of the genes that exist because of their superior adaptive value.' For Wilson, genes are located as the source of all aspects of existence, reflecting the broader genetic idealism that had taken hold of Western biology – and its translation into cultural production – since the publication of the double helix. The anti-sociobiologists describe Wilson as one of 'the long parade of biological determinists whose work has served to buttress the institutions by exonerating them from responsibility for social problems' (Allen et al. 'Against Sociobiology').

In an article on biological 'spandrels' published in 1979, Gould and Lewontin contest what they see as a Panglossian trend in US evolutionary biology, namely, the prevailing selectionist assumption that 'everything is made for the best purpose', with the example of architectural spandrels, 'necessary by-products of fan vaulting' in cathedrals (581). They criticise what they describe as 'an adaptationist programme that has dominated evolutionary thought in England and the United States during the past forty years,' which is based on the faith in 'the power of natural selection as an optimizing agent' (581). They argue instead that,

Organisms must be analysed as integrated wholes, with baupläne so constrained by phyletic heritage, pathways of development, and

general architecture that the constraints themselves become more interesting and more important in delimiting pathways of change than the selective force that may mediate change when it occurs. (581)

Their general argument is that, following Darwin, a pluralistic approach to identifying the agents of evolutionary change should be taken. For them, sociobiology confuses two modes of adaptation, defined as ‘the good fit of organisms to their environment’: cultural adaptation, where ‘heredity is imposed by learning’, and Darwinian adaptation based on genetic variation; there is a third form, which is where epigenetic adaptation can be located: phenotypic plasticity, which ‘permits organisms to “mould” their form to prevailing circumstances during ontogeny’ (592-3). By reducing all forms of adaptation to the natural selection of genetic factors – cultural, phenotypic and genetic – sociobiology produces ‘confused thinking’ (593).

While Lewontin and Gould are not writing on epigenetics, nonetheless this broader view of evolutionary change paints a much more complex picture than genetic reductionism and natural selection. They urge caution with assuming links between cause and effect, pointing out that ‘the immediate utility of an organic structure often says nothing at all about the reason for its being’ (594). The Anglo-American approach of ‘atomising organisms into parts and trying to explain each as a direct adaptation’ – which in sociobiology is extended to categorised behavioural ‘traits’ and social phenomena – is contrasted in continental Europe with the vitalism or ‘mysticism’ of an unknown ‘internal’ mechanism of evolution, but also, more convincingly for Gould and Lewontin, with the argument that ‘the basic body plans of organisms are so integrated and so replete with constraints upon adaptation [...] that conventional styles of selective arguments can explain little of interest about them’ (594). In this view, it is the *constraints* on evolution that are the most interesting part of evolution, rather than the changes wrought by natural selection. Particularly, developmental constraints, where the processes of organ system differentiation and their integration into a functioning body are ‘remarkably refractory to

evolutionary change' (594). This indeed was the embryologist C. H. Waddington's argument when he described an 'epigenetic landscape', where the embryo can 'choose' certain developmental pathways after the point of conception.

Lessing's representation of biological determinism in *Canopus in Argos* resonates with the criticisms of Gould and Lewontin, showing how she perceives the deployment of biological justifications for socio-political norms and goals as closing off the mystery of human and non-human existence, as well as naturalising unequal social structures. Her rewriting of genetics and evolution is grounded in the violence produced by such deployment, in the histories left out or eradicated by it, and the scale of physical destruction that the age of reductionism has wrought on the underclasses of the colonial core nations and the non-European peripheries and semi-peripheries. Lessing's target is not just Anglo-American biology, but in a more general sense, the instrumentalisation of biological theory to undertake large-scale biopolitical control, and to amass resources of biopower. This age of complexity raises a set of semiotic questions about the nature of communication and expression in biological systems. How does this information move through a system? What are the processes that determine the expression of one cluster of genes over another? These are questions that have become prominent in post-genomic research, but which are also derived from a long debate in the biological sciences: whether or not the hereditary material passed on from generation to generation can be modified or influenced by environmental stimuli, either external to the gene or external to the body.

### **Shock Responses: Epigenetics, Culture and Lessing's SF**

Lessing never uses the word 'epigenetics' in her space fiction, but epigenetic versions of biological change emerge frequently. My claim that Lessing writes forms of epigenetic change as a counter to genetic determinism rests on the contextual debate outlined above, as well as the rise in prominence of epigenetic



theory during the 1970s and early 1980s. Since the 1990s, 'epigenetics' has referred to the study of heritable alterations to genetic expression that do not involve changes in the nucleotide (DNA) sequence. Classical genetics and molecular biology rely on an understanding of DNA as a coding blueprint for the organism, fixed from the point of conception, based on a one-way flow of information from DNA to RNA to protein; research in epigenetics, on the other hand, has shown that gene expression can be influenced well past the point of conception by environmental factors, leading to heritable changes in future generations.

While epigenetic research has become increasingly prominent in Anglo-American biology since the 1990s, theory now described as 'epigenetic' has developed alongside genetics as a counter explanation for inheritance for much of the twentieth century. Chromosomal rearrangements were first identified by geneticist H. J. Muller in the 1930s in his experiments on fruit flies in T. H. Morgan's *Drosophila* laboratory, and labelled as 'transposable elements' by plant biologist Barbara McClintock from the 1940s. Transposable elements are sequences of DNA that move (or 'jump') from one genomic site to another, which McClintock suggested play a regulatory role in determining which genes are expressed, and when (Pray 32).

In the late 1960s, Roy Britten and Eric Davidson suggested that transposable elements are not only important for gene expression, 'but also in generating different cell types and different biological structures, based on where in the genome they insert themselves' (Pray 32). This provides a very different picture of the genome than the one outlined by James Watson and Francis Crick. As Leslie Pray puts it, 'If every single gene was expressed in every single one of your cells all the time, you would be one huge undifferentiated blob of matter!' (32). Studying transposable elements, or 'junk DNA', reveals a large degree of contingency with regard to what genetic material is expressed, and what is not, and draws a picture of the genome as responsive and plastic. To use biologist Evelyn Fox Keller's formulation, the study of junk DNA allows a move from discussion of 'gene action', to thinking of the genome as a 'responsive organ' perpetually involved in all manner of interactions in and outside the body (Fox Keller, 'From Gene Action').

McClintock won the Nobel Prize for Physiology or Medicine in 1983 for her work on transposable elements, giving the concept of the genome as responsive and plastic global recognition, and going some way to destabilising the reductionist dogma characterised by Anglo-American biology. In her Nobel acceptance speech, entitled 'The Significance of Responses of the Genome to Challenges', she describes 'the unusual responses of a genome to challenges for which the genome is unprepared to meet in an orderly, programmed manner' (180). In most instances, these responses to various kinds of shock 'for which the genome is unprepared' were unpredictable, in contrast to shocks that a genome faces repeatedly and for which it is prepared, such as 'heat shock' responses in eukaryotic (multi-celled) organisms. She explains,

The responses of genomes to unanticipated challenges are not so precisely programmed. Nevertheless, they are sensed, and the genome responds in a discernable but initially unforeseen manner. [Some of these responses] lead to new and irreversible genetic modifications. These latter responses, now known to occur in many organisms, are significant for appreciating how a genome may reorganise itself when faced with a difficulty for which it is unprepared. (180)

These observations are contributing to a 'revolutionary period' in genetic research, McClintock argues, which is 'altering our concepts of the genome: their organisations, mobilities, and their modes of operation' (181). It is no longer useful to think of the genome as separate from the somatic activities of the organism, or the environment outside it, but a part of an integrative system of activities and responses to unanticipated changes. The genome has the capacity – in the form of 'junk' DNA – for spontaneous responses, which can affect the inheritance of future generations.

The relevance of this claim for evolutionary theory is enormous, invoking both biologist Jean-Baptiste Lamarck's theory that characteristics acquired during an organism's lifetime might be inherited by future generations, and

Charles Darwin's interest in chance as a driving force of evolutionary change. In the Euro-US,<sup>2</sup> Lamarck's theory had been effectively censored since the late nineteenth century after the German biologist August Weismann claimed that the material carried in germ cells was totally impervious to external influences, thereby ruling out the idea of environmental influence. While Lamarck's theory was, problematically, based on the idea of the gradual perfectibility of species, his notion of environmental response as an evolutionary mechanism was also countenanced – albeit hesitantly – by Charles Darwin. In a description of evolutionary change in *The Voyage of the Beagle* (1839), Darwin notes the 'strictly subterranean habits of the tucutuco', and discusses their relation to the 'gradually-acquired blindness of the Aspalax, a Gnawer living under ground, and of the Proteus, a reptile living in dark caverns filled with water'; in both animals 'the eye is in an almost rudimentary state, and is covered by a tendinous membrane and skin' (66-7). No doubt, he conjectures half-seriously, 'Lamarck would have said that the tucutuco is now passing into the state of the Aspalax and Proteus' (67). While Lamarck's theory posited a teleology, a gradual, predestined progression of species from inferior to superior states of being, for Darwin, adaptation comes about through trial and error for the sake of survival, a process involving risk and loss.

The cultural relevance of epigenetics is part of the transition from an age of reductionism to an age of emergence, which could also be characterised as the shift from 'origin' to 'interpretation', a key theme throughout this thesis. If an atomistic approach seeks to break down matter to its smallest parts in order to find the origin of the universe, an emergent approach would focus instead on the activities and interactions of matter, and the ongoing process of interpretation that keeps matter moving. Echoing McClintock's description of a revolutionary period in genetic research, Laughlin argues,

What we are seeing is a transformation of worldview in which the objective of understanding nature by breaking it down into smaller

---

<sup>2</sup> I use 'Euro-US' as shorthand for the post-war economic alliance between Western Europe (principally Britain, France and Germany) and the United States.

parts is supplanted by the objective of understanding how nature organises itself. (76)

While a reductionist standpoint requires that ‘physical law is the motivating impulse of the universe’ as an ever-present force without origin or explanation, the ‘emergentist’ perspective understands physical law as ‘a rule of collective behaviour’ (Laughlin 80). For Wendy Wheeler, this shift ‘provides us a new way of thinking, not only about how complex systems work, but about how, in their biological manifestations and beyond, they are *inter-related*’ (27). While genetic determinism is part of an atomistic era of reductionism, epigenetics is part of a cultural paradigm shift in thinking about life, its organisation and its processes.

I argue that Lessing’s space fiction registers this shift as a political possibility as well as an ontological one, exploring the various ways in which scientific knowledge is deployed for the sake of governance, and how the instrumentalisation of life processes is resisted, on conscious and unconscious levels, and across the mind-body divide. Shadia Fahim observes, ‘the theme of equilibrium is the major axis on which the whole series operates,’ and that the solution to the various crises represented in the novels ‘is the striving to regain equilibrium by descent into past history’ (139). Certainly, the theme of maintaining equilibrium is key to the Canopean and Sirian interests, but the novels gain their narrative momentum – and present their radical speculations – through repeated moments of disequilibrium, when systems are thrown into shock. In these moments, new responses are made possible. To develop Fahim’s argument about the role of history in the novels, and to connect this to the idea of ‘junk DNA’, the ‘waste’ material of pasts that have been left out or repressed is activated into the present, disrupting the linear course towards an imagined future. The word ‘archives’ in the title of the series mimics the utilisation of imperial documentation, and the way in which information that has been forgotten, has fallen into disuse, or become irrelevant – the junk of empire – might come back into circulation as a way of interrupting the present and resisting a projected future.

Tom Sperlinger has observed this in an essay on interruptions that ‘rupture the patterns of everyday life’ across Lessing’s fiction (140). He argues that these interruptions function to ‘insist on the repeated urgency of the present’, and that Lessing’s work is thus ‘peculiarly attentive to the way in which the present continually interrupts the process of entering what was assumed to be the future’ (140). They throw stable patterns into states of uncertainty, making them vulnerable to reconfiguration. To follow McClintock, they appear as unforeseen shocks to systems to which the novels’ characters are required to adapt: a ‘failure of the Lock’ between Canopus and Rohanda in *Shikasta*, the marriage between Al Ith and Ben Ata in *The Marriages Between Zones Three, Four and Five*, the Lombis’ displacement to a foreign planet in *The Sirian Experiments* for the sake of experimentation, the ice age in *The Making of the Representative for Planet 8*, and ‘the Rhetorical Disease’ in *The Sentimental Agents of the Volyen Empire*.

Sperlinger suggests that these interruptions provide a lesson: ‘how one might teach oneself (or a child) to be resilient in the face of cultural devastation’ (147). These repeated interruptions imagine strategies of resistance for the sake of survival. This survival is not restricted to competitive strategies. Rather, it is comparable to Niles Eldredge and Stephen Jay Gould’s theory of evolutionary change as ‘punctuated equilibrium’, which they published in 1972 (making it contemporaneous to *Canopus in Argos*). They suggest that ‘the history of evolution is not one of stately unfolding, but a story of homeostatic equilibria, disturbed only “rarely” (i.e. rather often in the fullness of time) by rapid and episodic events of speciation’ (84). The representations of systemic change in Lessing’s space fiction are constructed around such events, which lead to adaptations that are not reducible to the biopolitical ambitions of the series’ imperial rulers. Rather, change occurs by chance, at intervals, and as part of a complex web of activity.

The turn from determinism to emergence allows a renewed emphasis on studying the material basis for human sociality. Wheeler argues that it ‘allows us to see more clearly the relationship between individual, culture and society’ (13). This is not to reduce sociality to biological programming or evolution, as in

sociobiology or evolutionary psychology; rather, this turn towards complexity and emergence along the lines of a material basis for sociality prevents the reduction of heredity and evolution to genetics. Wheeler writes,

Not only has the inheritance of acquired characteristics been shown to be possible, but also such epigenetic inheritance indicates our inseparable lived relation to our environment, including our cultural environment. And if what we feel and experience is both biologically and psychobiologically capable of heritability, this has very far-reaching social, ethical and political implications. (14)

Rather than a bioregional perspective that would try to integrate different facets of an environment into a working whole, biosemiotics allows for loss and negotiation as unavoidable components of any evolutionary process. Wheeler argues that 'it simply makes no experiential or biological sense to talk simply about "individuals", but only about the environment-organism continuum' (107). It is not that individuals are not 'real' and do not have 'minds', she argues, but rather than 'these minds [...] are more usefully understood in terms of semiotic processes which necessarily and logically include the environment in which an organism swims – its 'world' or *Umwelt*' (107), taking the term, *Umwelt*, from Jakob von Uexküll. In Thomas A. Sebeok's words, *Umwelt* refers to 'the biological foundations that lie at the very epicentre of the study of both communication and signification in the human [and non-human] animal' (Sebeok x). Dorion Sagan argues that Uexküll's thought allows contemporary biologists to 'embrace the reality of purpose and perception without jumping to creationist conclusions' (4).

More specifically, the study of animals' perceptual worlds and their influence on development and evolution renders governmental ambitions of programming individuals, either through genetic engineering or environmental conditioning, as only incomplete approximations of the complexity of what Wheeler calls 'the environment-organism continuum'. As Wheeler writes,

[T]he world is not simply out there as ‘information’ to be processed by our senses (the representational view of mind); our human/nervous/endocrine/immune system (sensorium) actively contributes to the world it thus calls forth. The human inner world (*Innenwelt*) is constantly in dialogue (negative and positive feedback in the complex systems sense) with the human natural and social outer world (*Umwelt*). (108)

Wheeler’s description could also describe various forms of adaptation that occur throughout Lessing’s space fiction. In these novels, evolution does not occur through environments (political, ecological) acting on organisms; rather, Lessing uses the speculative genre to depict this continuum, and the ongoing responses to chance events that repeatedly interrupt and re-route the functionality of sovereign teleology.

### **Biopolitics and Race in the World-System**

One of the prevailing themes of Lessing’s space fiction is the body as political object. The age of complexity offers new ways for theorising ‘the body’ with regard to traversing the gap between objectification and subjectivity, and in *Canopus in Argos*, this possibility appears in what I read as speculations on decolonisation (notably, Southern Rhodesia’s transition to Zimbabwe occurs alongside *Canopus in Argos*’s publication). Many of the claims I make about Lessing’s writing of genetics in her space fiction are based on a materialist history of the political and economic instrumentalisation of life processes under imperialism that extends across categorical divisions of social and biological existence. While the bio-anthropological construction ‘race’ has not had currency in genetics since the 1960s, the contemporary world-system still requires racialising techniques to maintain governance over global resource extraction and wealth distribution. Up until the early twentieth century, this inequality has depended on a genealogy of ‘white’ property, whether economic

or genetic. Rather than isolate Nazi eugenics as a culmination or an end-point, Lessing's space fiction reconstructs a social history of 'whiteness', staging the biological justification for the perpetual and unapologetic sacrifice of certain bodies in favour of others. It is this eugenic social order that sets the terms for the freedom of a liberal subject.

Clare Hanson and Susan Watkins have noted Lessing's apparent ambivalence in the representation of Canopean colonial protagonists, particularly Klorathy and Johor. While the Sirian Empire is unambiguously utilitarian in a negative key, they note the suspicious quality of Canopean 'benevolence'. Susan Watkins argues that 'the need for the individual to exist in harmony with Canopean purpose does [...] turn Canopus into a benevolent colonial dictatorship' (86). Describing the 'eugenic fantasy' at the end of Lessing's *The Four Gated City*, Hanson argues that the *Canopus in Argos* series continues this theme. *Shikasta*, she writes, is 'rooted in the framework of the Modern Synthesis of evolution and genetics' (86). Following Hanson, I read the Modern Synthesis as the theoretical framework through which Canopean biopolitical policy is constructed, and compare the Canopean agent Johor to one of its three inventors: Haldane. In the late 1920s and early 1930s, Haldane, Ronald A. Fisher and Sewall Wright developed a new version of genetics which combined Darwin's theory of natural selection with Gregor Mendel's laws of heredity, to produce a qualitative theory accounting for small-scale, continuous variation: the Modern Synthesis. Crucially, the Modern Synthesis looked at variation at the level of population, rather than between individuals. For Darwinians, small-scale variation was the primary source of evolutionary change in populations. The new approach measured the intensity and incidents of natural selection in terms of evolutionary change in species, as well as the rate at which this change occurred. I place Watkins' and Hanson's readings together, arguing that Canopean biopolitical governance is grounded in the eugenic ambitions of socialist utopians, and a reductionist genetic epistemology where adaptation only occurs through mutation.

Science historian Sujit Sivasundaram outlines three examples of synergy between race and empire that 'suggest that the study of the human body was



vital to European expansion from the very start': first, the 'identification of racial and national types' which provided a framework to uphold empire both 'at home' in Europe, and 'abroad, amongst those who found themselves governing the colonies' (115). Race functions as an apparatus of imperial governance alongside the invention of the nation-state as a differentiation of core and periphery territories under colonialism. Second, by offering the possible enabling of societal improvement and thereby justifying colonial rule by 'supposedly superior' colonial agents, 'biology neutralised the question of whether empire was moral' (115). How could it not be morally correct to habilitate colonised subjects into European living, with regard to reproductive choices and healthcare as much as religion and morality? Third, 'empire provided the raw materials for science and helped to define the stereotypes' (115). Bio-anthropological expeditions were sites of experimentation and resource extraction, as well as knowledge formation. 'Raw materials' in this history were constituted by scientific observations and accounts of colonised people, and became the biological matter for study: skeletons, organs, and reproductive bodies.

Sivasundaram's overview of these three synergies between race and empire – race-nation typology, morality and materiality – provides a point of entrance in the representation of biological science in Lessing's space fiction. By drawing in biological and genetic discourses into the narratives as tools of governmentality, Lessing reconstructs a capitalist (inter)world-system of combined and uneven development in her space fiction. In this universe, the Canopean Empire stands in for European colonialism, the Sirian Empire as the Soviet challenge, and Shammat as the externalised underbelly to capitalist modernity. In this system, biological life is purely instrumental for imperial acquisition; welfare programmes and humanitarian intervention are deployed as supplements to the annihilating sovereign power of the interplanetary administration, designed to protect investments or possible future sources of colonial biopower.

The WReC Group repudiate 'various recent attempts to pluralise the concept of modernity through the evocation of "alternative" modernities', centring Harry Harootunian's argument that capitalist modernity is

characterised by ‘the production of permanent unevenness, permanent imbalance between various sectors of the social formations, the process by which some areas must be sacrificed for the development of others’ (iv). The WReC group emphasise both the singularity and the global simultaneity of capitalist modernity, conceiving modernity as ‘the way in which capitalism is “lived”’, in ‘systemic thinking in non-linear conjunctions’ (14-15). Rather than positing ‘alternative modernities’ that develop differently and examining different points of origin for contemporary global configurations of knowledge and power, analysis can begin with the interpretative dynamics through which capitalist modernity is spread throughout the world. While the comparativist claim that ‘different starting points of the transition to modernity lead to different outcomes’ is unquestionable (Gaonkar 1), I understand world-systems analysis as primarily an argument about interpretation, following the rhetoric of developmentalism in order to expose its speculative teleology as a myth that helps sustain underdevelopment.<sup>3</sup>

This argument grounds my claim that *Canopus in Argos* is a speculative exploration of a competitive global eugenic order imposed through capitalist modernity, refracted in Soviet biology in Stalinist Russia under an opposing ideological regime, and represented in the competition between Canopus and Sirius in forced growth and accelerated evolution. This eugenic social order binds the project of human improvement to an economy of human value, and therefore – necessarily – of disposability. When, for example, sociologist Lisa Marie Cacho speaks of social death as the alternative to social value, she is referring to a system of investments in ‘whiteness’ as a human value, which exceeds the biological boundaries of genetic inheritance while still adhering to a mythological construction of the neutral subject as genetically ‘white’: ‘the institutionalisation of white privilege institutes “inalienable rights” as a property of whiteness and personhood’ (24). For Cacho, white privilege is not simply constituted by isolated

---

<sup>3</sup> I use the following definition of developmentalism: ‘An economic policy concerned with improving the economy, and thus national autonomy, of an underdeveloped country by fostering the development of dynamic internal markets through such means as imposing high tariffs on imported goods.’ (OED)

acts of racism; if 'human value is made intelligible through racialised, sexualised, spatialised, and state-sanctioned violence,' then these calculations of social value make it 'all but impossible for people assigned to certain status categories to represent themselves as moral and deserving' (4). Social value is, then, profoundly eugenic, and this social determination of 'good' (eu-) 'origins' (-gene) is laced into reducing human existence to the biological.

The narratives of the colonial agents in the novels – Johor, Klorathy and Ambien II – are characterised by a prevailing anxiety around imperial eugenics as a means of expansion and improvement. These investments in racial superiority prevent solidarity and the articulation of a common pluralism, not bound to the typological performance of 'multiculturalism' – which takes place in a key of national tolerance, rather than internationalism. As philosophers of race such as Cacho and Noel Ignatiev argue, 'whiteness' is not a static good reducible to genetics, but is a malleable signifier of biological superiority depending on the socio-political context. Materiality in the novels appears as the possibility of resistance. When imperial initiatives fail, it is not because there is a sustained ideological resistance from grass roots groups, but because colonised subjects recuperate extracted material, and through this recuperation, realise the possibility of their emancipation.

## Overview of Chapters

In Chapter One, I relate the depiction of eugenic thinking in *Memoirs of a Survivor* (1974) and *Shikasta* (1979) to the history of the British Eugenics movement. In *Memoirs*, this comes through the depiction of post-colonial race relations in a disintegrating metropolitan core (which I read as a version of London in the mid-1970s), and in *Shikasta*, through the description of Canopean eugenic experiments on Rohanda/Shikasta on colonised populations. Reading *Memoirs* as a precursor to *Canopus in Argos*, I argue that the project of racial

hierarchy – which manifests as the constitution of Emily as white, Anglican female leader and the consequent exclusion of the Irish-Polish Catholic June Ryan – gives way to one of liberal multiculturalism and ‘genetic usefulness’ in *Shikasta*. I relate this second project to a shift in Euro-US scientific racism from the mid-1950s onwards from describing ‘racial’ goods to ‘genetic’ goods, with the fundamental racialising logic left intact. The ideology of racial hierarchy is more covert, but there are various indications in the text that the Canopean determination of ‘genetic usefulness’ is based on a racialising logic, dependent either on miscegenation or endogamous reproductive orders. Ending with the trial of the white race, *Shikasta* lays out the biopolitical framework for the series’ depiction of imperial governance.

In Chapter Two, I read *The Sirian Experiments* as a critique of Soviet biology, and, more broadly, as an exploration of competitive Big Science programmes between the US and the Soviet Union after World War II. The Sirian adaptability experiments on humans mimic Soviet biologist Trofim Lysenko’s agricultural experiments in which plants were environmentally conditioned to grow and flourish in particular climates. I introduce the principle critical vehicle of the thesis – what I call ‘epigenetic poeisis’ – as a literary term for the description of change extending across different levels of experience, as a result of chance events. I then explore the theme of biosocial<sup>4</sup> ambivalence in the description of world cities in *The Sirian Experiments*, where the urban proletariat and subproletariat live in a present continuous state of responsivity to daily challenges and temporary negotiations; I argue that this condition, the effect of uneven social spheres, is a form of living by chance that is analogous (and even productive of) epigenetic poiesis, where bodies are required to constantly adapt to changed circumstances, and where living conditions might be passed on as heritable states of being.

---

<sup>4</sup> I distinguish my use of biosocial and biosociality from biosocial theory (the study of psychological disorders as biologically-determined traits), extending Paul Rabinow’s concept of it as the formation of new identities from genetic or biological conditions, to social relations produced through the necessity to keep metabolic systems going.

In Chapter Three, I explore how epigenetic ideas about complexity and emergence are allied to queer modes of sociality, denaturalising heteronormativity (and its attendant mythology of genetic inheritance as patriarchal genealogy) as the founding relationship of social life. The novels explore non-reproductive relationships and their effects on evolutionary change. Homosexuality is not constructed as a binary alternative to heterosexuality; rather, as I argue in my reading of *Marriages*, a queer sociality develops as a departure from what Michael Warner calls a 'reprosexual' social order. Writing on sf and queer theory, Wendy Pearson asks, 'whether or not sf has traditionally been better at imagining machines and their conjunctions than it has been at imagining bodies and their possible relationships,' or whether many sf stories in fact 'take for granted the continued prevalence of heteronormative institutional practices – dating, marriage, the nuclear family and so on' (150). One of my central claims is that Lessing represents the regulation of the body through biopolitical technological governance, while exploring 'human sociality in all its complexity' (Pearson 150) – including biological complexity – as always already resisting the capture of bodily processes by governing structures.

Chapter Four continues the speculation on sites and modes of resistance to imperial scientific governance in the novels, this time at a collective level, with regard to the constitution of life itself as a socio-political category. Reading *The Making of the Representative for Planet 8* (1982), I argue that the Canopean invention of a race as a labour force and biological surplus by engineering and combining different genetic 'stocks', using a planet as a laboratory, can be read as an analogy for post-war neo-imperial governance of decolonised African nations through agencies such as the International Monetary Fund (IMF) and the World Bank, and their temporary abandonment in the early 1970s, leading to what has been called the 'African Tragedy'. A relation of transnational dependence between Europe, the US and former colonial territories could not withstand the Nixon Shock, and peripheral nations found their export goods decreasing dramatically in value, and themselves unable to participate in international trade. I read this economic crisis transformed into the unforeseeable shock of a sudden climate change – an ice age. In the novel, this

crisis presents an opportunity for biosocial adaptation away from imperial interests, a possibility that would not be afforded in the realist genre. By recuperating this (genetic) material at a time of meteorological crisis, the Planet 8ers explore the possibility of their emancipation. I read this as Lessing's intervention in the decolonial writing of the period that examines the magnitude of the task of mounting a sustained resistance to colonisation, in undoing the co-option and extraction of colonised materiality, the invention of racialised populations, and the epistemological inheritance of imperial science.

In Chapter Five, I read *The Sentimental Agents of the Volyen Empire* (1983) as a narrative of interruptions that lead to disequilibrium, following Sperlinger. Suspending the epigenetic argument, I focus on how Lessing's use of form stages repeated scenes of disruption, destabilising the Canopean typological arrangement of life itself. *Sentimental Agents* develops a critique of multiculturalism, and suggests the political potential in contaminated and intoxicated states of being. As Elizabeth Maslen argues, the space fiction novels show the generational decline of Canopean sovereignty (56). In *Canopus*, she argues, 'all powers are part of a dynamic process' (56); Canopean sovereignty is not shown to be absolute and eternal, despite its colonial agents' best intentions and imperial orders. While *The Sirian Experiments* shows the unravelling of Ambien II's belief in Sirian ideology, *Sentimental Agents* (a speculative spy novel) depicts the interruption and undermining of Canopean ideology not through pitching an alternative ideology, but through the surfacing and transmission of a repressed memory of imperial violence. While the Canopean agent Klorathy seeks to arrest the spread of resistance, the series ends with his subordinate's relapse into the 'Rhetorical Disease', questioning the role and history of Canopean imperialism. By ending the series in the present continuous, refusing an emancipatory resolution for the subjugate populations under Canopean rule, the novels emphasise that the work of decolonisation occurs at different entry-points and in often incompatible time-frames, through long-term efforts and in taking chances when they arise.

## Science and Social Change: Lessing's SF Turn

Lessing's innovation in the *Canopus* novels is to deploy biological science to explore the construction, limits and peripheries of capitalist sociality, not to make predictions about the future of genetic engineering, transhumanism or even quantum physics, in the manner of Arthur C. Clarke or Isaac Asimov. David Waterman notes Lessing's investigation of science 'as used to support the war machine, justify colonial expansion and establish authority, all under the control of a special elite class of technocrats' (cited in Watkins 89). Criticism on the novels acknowledges the innovative way in which Lessing redraws the limits of sociality and subjectivity outside the 'natural order' of capitalist modernity. Her space fiction retains a commitment to radical critique and social change, while registering a shift in how such change might come about. As Lorna M. Peterson notes, 'her greatest fiction has always allowed for change, dramatic change, and certainly she has been undaunted by the necessity of changing her own opinions' (155). An engagement with Marxist thought never departs the substance of her literary speculations, but Marxism increasingly functions as a political intertext, rather than an ideological alternative: Lessing does not pave the way to utopia, and manifestations of ideal socialist societies in the *Canopus* novels (Adalantaland, Lelanos, Zone Three) either meet rough ends, or fall into neo-fascist endogamy through stasis and protectionist social organisation. By her own admission, sf offers her space to explore modes of being, perspectives of power and constructions of time, the body and materiality not available to her in realism.

Offering 'something in the way of clarification' for her sf in the preface to *The Sirian Experiments* (after overwhelmingly negative reviews of the first two *Canopus* novels), Lessing makes it clear that her explorations in sf are both ontological and political, writing, 'our current view of ourselves as a species is wrong [...] We know very little about what is going on' (SE 9). Her invented cosmology is a means of exploring ontological and socio-political alienation as a foundation for existence; the extraterrestrial locations and alien species suggest

the indeterminacy and unknowability of what we call 'human' existence, despite attempts to reduce life itself to an origin.

On this note, Lessing's space fiction appears after two decades of radical theoretical discussion around the body as political object under modernity, particularly in French theory. Some canonical texts relevant for the novels' representations of gender, race, anti-colonial politics and sexuality would be R. D. Laing's *The Divided Self* (1955), Frantz Fanon's *The Wretched of the Earth* (1961), Jacques Derrida's *Of Grammatology* (1967), Hélène Cixous's 'The Laugh of the Medusa' (1976), Foucault's *History of Sexuality, Vol. I* (1976) and *Society Must Be Defended* (1978), and Edward Said's *Orientalism* (1978). Jenny Diski gives a flavour of this context in her memoir of her time living with Lessing in the early 1960s, where she remembers trying to keep up with the 'table-talk' of Lessing's wide and varied social circle:

Freud, Marx, Foucault, Canetti, Martin D'Arcy, Derrida, the anti-psychiatrists, even the behaviourism of Desmond Morris and Konrad Lorenz were to different extents the background to the chat for some, while others, Doris among them, relied on a belief in their own grasp of the effects of heart and mind on individual or crowd behaviour. (22)

While Lessing may, according to Diski, have relied on her own grasp of matters over that of others, her work from this time is nonetheless marked by radical conceptualisations of experience, governance, and power explored by her contemporaries. Specifically, her concerns around the human body as political object under modernity concern reproductive labour and its implications for sexuality, the racialised division of labour under neo-imperial industrial capitalism (which intersects both 'race' and 'class') and its implications for post-colonial governmentality, and the creation of surplus value out of extractive technologies, including the biopower of colonised or subjugate populations. Her space fiction is produced alongside the development of critical and cultural theory as a radical and explicitly political field of study in Europe and the US, particularly after 1968, and bears this legacy in many of its thematic concerns.



Lessing's turn from realism to sf does not announce itself with *Memoirs of a Survivor* (1974), but begins more surreptitiously, towards the end of the fifth novel of her *Children of Violence* series, *The Four-Gated City* (1965), through the novel's explorations of both the social organisation of madness and the experience of shared psychosis. Like *Memoirs*, the novel's speculative section is characterised not by a turn to extraterrestrial space, but to psychic space, leading to descriptions of a dystopian future. The narrative gradually shifts from centring Martha's relationship with Mark Coldridge, 'capitalist, member of an old upper-class family, and an intellectual,' to his wife, Lynda Coldridge, the madwoman in the basement, 'nothing-but Cassandra,' who sees things as they are, if through a glass, darkly (216, 236). It is Lynda with whom Martha is able to speak openly, while Dr Lamb, the rational psychiatrist, gives those with whom he comes into contact the 'tremor' of 'the slave's silent withdrawal behind defences' (333). The honesty demanded in the psychiatrist's consulting room is compared unfavourably with the openness made possible by Lynda and Martha's shared experience of madness and breakdown; while there are many things that remain unsaid between Lynda and Martha, they are increasingly able to operate on the same horizon, and it is here that the possibility of change is registered.

The depiction of this experience of madness echoes Laing's speculation that 'the cracked mind of the schizophrenic may *let in* light which does not enter the intact minds of many sane people whose minds are closed' (27). Andy Hamilton argues that, similarly to Foucault, Laing understands psychotic delusion as 'expressing a genuine, deviant vision; the deviant subject does not speak gibberish, but uses a linguistic code which non-deviants have not grasped, and has an alternative rationality' (229). This is a theme returned to in *Shikasta* and *Sentimental Agents*, which I explore in Chapter Five alongside the anti-psychiatry movement of the 1960s and 1970s. Diski relates that for Lessing and some of her social group in the early 1960s,

[A]t that time, of all the ways of seeing in the world, understanding unconscious psychological motivation was everything, told you

everything, i.e. the truth, while surfaces, behaviour, the overt story were so much gaudy wrapping – false reasoning, self-deceit. (22)

In *Canopus*, space travel functions as a metaphor both for journeys into ‘inner space’, as well as the freedom of movement afforded to colonial agents of the imperial core. Lessing’s turn to sf registers a shift from structural transformation in the public sphere to the internal change required to undo the epistemological violence of capitalist modernity. Marion Vlastos argues that Lessing’s writing up to and including the first four novels of the *Children of Violence* series is ‘marked with the stamp of historical determinism,’ populated by characters – Martha Quest included – committed to a certain kind of public political action for systemic change (245). Vlastos notes the resonance in Lessing’s earlier fiction of George Orwell’s position (outlined in his essay on Charles Dickens) that social transformation could come only from structural change, and that ‘the Marxist solution seemed the most basic approach to the problem of injustice’ (245). However, Vlastos also reads ‘a gradual movement away from Orwell’s position to a new kind of belief in the possibility of affecting the inner man’ in the trajectory of Lessing’s writing (245). Vlastos attributes Martha’s sense of ‘political hopelessness’ in *The Four-Gated City* to a loss of faith in public demonstrations of collective resistance: ‘Despite the new fashion of protest, the world of the sixties is even more fiercely and efficiently headed toward self-destruction than the more repressive earlier decade’ (248).

This self-destruction derives in part from the seeming inevitability of fractures between various social movements of the period, and a need to recognise complicity in oppressive global regimes. There is a particular possibility afforded in sf that Lessing, the daughter of white settler parents in Southern Rhodesia, does not risk so easily in realism: the consideration of anti-colonial politics from the perspective of black Africans. Anthony Chennells notes the ‘near-total silence’ of black Africans in Lessing’s writing, problematic for her credentials as a postcolonial writer (‘Postcolonialism’ 4). This is a subject position that earlier novels self-consciously fail to access, notably *The Grass is Singing* (1950), and indeed this failure is part of their narrative technique. As

Chennells notes, '*The Grass is Singing* was felt to be so objectionable by the settlers because, despite Moses's silence, his actions show that he has written himself as the subject of an alternative discourse' ('Lessing's Rhodesian Stories' 19). He notes that in most of her Rhodesian stories, 'the dominant discourse within which the narrative appears to operate is that of a colonial bourgeoisie' ('Lessing's Rhodesian Stories' 31).

I take Chennells' description of Moses writing himself as 'the subject of an alternative discourse' as the starting point of my reading of *Planet 8*: the writing of an alternative discourse by colonised peoples. This is not to suggest an alternative modernity in terms of origin, but as an interpretation and resistance to a dominant narrative. By abstracting the mechanisms of imperialism into non-realist settings, Lessing takes an opportunity to work through some of the problems encountered by African nationalist movements; namely, the repeated conflict between national liberation, the colonial inheritance of the new regimes (classifications of class, caste and gender), and the world-system of transnational finance capitalism that a new category of under-developed nations was obliged to enter, while always excluded from full participation. Read in this way, the first three novels build up to the narrative of collective self-determination in *Planet 8*, and the fifth falls away to stage again the difficulty of breaking through imperial amnesia into sustained decolonisation movements.

If, for Lessing, 'the only hope for securing our future lies in the individual's journey "back and in" to his self' (Vlastos 257), then in *Canopus*, this 'self' is restricted neither to the individual nor to the mind, but is constructed beyond implicitly Cartesian parameters of 'organism' and 'environment'. Noting the increasing interest in 'biology as the "hard science" frontier of the future, Joan Slonczewski and Michael Levy argue that in contemporary sf, 'the quest for outer space has given way to the quest for the genome'; the possibility of change in psychic 'inner space' is threatened by physiological 'enemies within' – 'cancer, AIDS, and bio-weapons – as well as the accidental results of genetic engineering, and our own lifestyle destroying our biosphere' (174). These new adversaries complicate an anthropocentric ethical framework based on self-other relations, urging instead an actor-network vision of actants constantly interrupting and

interrupted by each other at various sites of intersection. This field of conflict is not restricted to the enemy-friend distinction offered by Carl Schmitt in his concept of the political (26), but involves temporary alliances and chance responses at the level of molecular life.

Preceded by Aldous Huxley and H. G. Wells, Lessing is a forerunner to the current fascination in and out of sf with speculative genomic futures, and with how post-genomic research is changing the epistemological constitution of the human subject. These speculative futures are as much the terrain of the biotechnology industry as they are subjects of fiction. Lessing's connection with the British Eugenics movement through fellow sf-ist Naomi Mitchison, sister of Haldane, places her historically within a debate about the utopian possibilities for genetic engineering and scientific pessimism around it as yet another technology available for power abuses. Slonczewski and Levy identify five themes that consistently appear in the representation of biology in sf: intelligence and the brain, mutation and evolution, genetic engineering, sexuality and reproduction, and environment and the biosphere (175). To different degrees, Lessing engages with these themes in *Canopus in Argos*, intervening in the idea of 'mutation [as] the ultimate mode of biological change' (a theory of the Modern Synthesis) and portraying, instead, what I read as epigenetic change. Through this, she explores 'the hope of a form of evolution that will leave behind what a future speaker [in *Shikasta*] sees as "always murdering and destroying"' (Maslen 46). This is an intervention in common sense understandings of life itself, unmooring evolutionary theory from its co-option by capitalist imperialism and suggesting alternative kinds of change.

I analyse epigenetics in Lessing's space fiction in two ways: first, as an epistemological alternative to genetic reductionism, and second, as an analogy for considering the roles of chance and creativity in life itself. There is currently little scholarship on epigenetics in literature, partly due to the fact that epigenetics has arrived only recently into popular media (although as I have argued, ideas associated with it have been around for a long time). As Claire Sprague argues, 'the series as a whole does mark a radical and provocative departure from the simpler chronological novel of development with a single

protagonist familiar in the Martha Quest novels and in male-centred English examples', and this innovation 'loosen[s] the patterns of interrelationship in the novels as to have created something new' (213). This idea of 'loosening interrelationships' (in order to speculate on alternative ones) is prominent in Hanson's analysis of epigenetics, plasticity and identity in Jackie Kay's *Red Dust Road*. Hanson's approach shares a philosophical grounding with my arguments about Lessing's space fiction, with regard to what she calls 'the plasticity and mutability of being' and 'the inter-connectedness of biological systems and the complex interdependencies of organisms and environments' (433). Crucially, Hanson connects this to a discussion about the complicity of genetic reductionism in the construction of 'race' as bio-cultural identity. It is my hope that this thesis will contribute both a theoretical and historically materialist account of biology in literature which, in the broadest sense, considers how scientific discourses of being shape experience (human and non-human), but also how the interdependency of organism and environment repeatedly interrupts supposedly stable systems, enabling the ongoing interpretation and adaptation of established conventions.

As a final introductory remark, it is important to emphasise that what I identify as forms of epigenetic change in the novels are not presented uncritically as a quasi-socialist argument about complexity, opposed to quasi-capitalist reductionism. As I argue in my reading of forced conditioning in *The Sirian Experiments*, a biological theory of heritable environmental responses is also vulnerable to reductionism and political instrumentalism. Rather, epigenetic modes of change and adaptation emerge to interrupt the totalising regulation of life itself under the epistemological and material control systems of capitalist modernity. In the broadest figurative sense, I read this emergence as the waste materials of empire – fragments of a lost archive – disrupting the teleological drive of imperial sovereignty. Darko Suvin argues that the stretching and compression of temporality made possible in sf means that '[sf] can deal with the present and past as special cases of a possible historical sequence seen from an estranged point of view – since any empirical historical point or flow can be thought of as one realisation among practically innumerable possibilities' (20).

In the context of Lessing's space fiction, this is as much a material description as a metaphysical one: both as the 'innumerable possibilities' of the responsive genome, working back and forth across disused archives of junk DNA, and those of 'cognitively plausible futures and their spatial equivalents' (Suvin 20).

## BRITISH EUGENICS, RACIAL HIERARCHY AND GENETIC USEFULNESS IN *MEMOIRS OF A SURVIVOR* AND *SHIKASTA*

In this chapter, I read *Memoirs of a Survivor* (1974) and *Shikasta* (1979) in the context of the development of eugenicist thinking in Britain, first as a Victorian project constructing whiteness in opposition to the ‘non-whiteness’ of colonised and working class groups, with its attendant assumptions about a founding hierarchy of human ‘types’, and second, as a legacy of post-World War Two social policy, which continued a Eurocentric hierarchy of race in post-war international finance and production systems through the related vocabularies of liberal multiculturalism and developmentalism. *Memoirs* and *Shikasta* demonstrate a specifically British project of whiteness in the development of eugenic thought. In *Memoirs*, Lessing stages the reconstitution of whiteness in the imperial centre at a moment of socio-economic collapse, and in *Shikasta*, she puts whiteness on trial. Eugenic thinking emerges in the novels first, through the (re)constitution of whiteness at the top of a racial hierarchy in *Memoirs of a Survivor*, and second, as eugenic measures in *Shikasta* that echo the utopian socialist ambitions of interwar British eugenicists such as J. B. S. Haldane, Ronald Fisher and Julian Huxley. In the speculative mode, Lessing mingles different historical moments in order to create a general atmosphere of long-wave historical oppression, under the governing logic of ‘race’.

As defined by Francis Galton, eugenics is grounded in racialising ideology, as ‘the study of the agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally’ (‘Eugenics, its definition, scope and aims’ 43). ‘Race’ did not disappear from social organisation after World War II; what developed instead was an ethos of liberal multiculturalism in which cultures are differentiated through racial origin, mapped into a general typology of social groups. Reading Lessing’s literary treatment of ‘racial hierarchy’ and ‘genetic usefulness’ in her space fiction

alongside the historical development of British Eugenics, particularly the interwar eugenicists, her Canopean characters can be read as resurrections of utopian socialists such as Haldane and Julian Huxley. Huxley coined the word transhumanism in a lecture given in 1951, secularising the idea of spiritual transcendence, and describing it as 'the idea of humanity attempting to overcome its limitations and to arrive at fuller fruition' ('Knowledge' 139). In the speculative mode, the *Canopus* novels imagine the theoretical ambitions of these transhumanist thinkers around the perfectibility of humanity in practice. Lessing's representations of imperial eugenics in *Canopus* undo the binary opposition of this debate to consider the broader implications of biology deployed as a disciplinary technique in an uneven world-system, already bound to the legislated ideal of a liberal subject, and therefore premised on the exclusion of others.

The narratives stage alternative histories in which certain eugenic ambitions play out in practice, examining the possible scale of cost of such practices. Read alongside this history, the novels represent the context of race relations in the 1970s, both in the former imperial centre and in post-colonial and decolonising nation-states. These novels foreground the ongoing narratives of racialisation, eugenics and imperialism throughout the *Canopus in Argos* series, and introduce the deployment of genetics as a language of sovereign intervention. By arranging this history in speculative fiction, rather than in a realist mode (as in, for example, in *The Good Terrorist* (1985)), Lessing enters a longer tradition of scientific pessimism around eugenics in British sf, characterised not least by Aldous Huxley's *Brave New World* (1932), countering some of the speculative claims of the interwar transhumanists about the possibilities for socio-genetic engineering afforded by eugenics.

### **Eugenic Governmentality: Whiteness and Multiculturalism**

Throughout *Canopus in Argos*, eugenic initiatives appear as failing policies of the dominant imperial powers, Canopus and Sirius. These failures bring to crisis the reduction of life itself into a set of identifiable characteristics based on observable



criteria. In *The Taming of Chance* (1990), Ian Hacking describes this reduction in the context of the emergence of the statistical imagination during the eighteenth and nineteenth centuries and the 'counting' of human behaviour: 'Data about averages and dispersions engendered the idea of normal people, and led to new kinds of social engineering, new ways to modify undesirable classes' (9-10). Biological and behavioural surveillance become the tools of a disciplinary society, to follow Michel Foucault. Moreover, the need for discipline *creates* these disciplinary boundaries between realms of experience. Certain phenomena are translated into discrete units of observed characteristics as the coordinates for social organisation, obscuring socio-political change not determined from the top down, and not accounting for biological events that appear as non-genetic inherited changes.

There are two projects of whiteness in *Memoirs* and *Shikasta*: first, the project of racial hierarchy in the early phase of the British Eugenics movement, and multiculturalism as 'genetic usefulness' in the later phase. By negating the constituted political difference between them as a false opposition (the post-Windrush institutional 'forgetting' of racial hierarchies in the name of meritocracy), the texts stage a critique of the general project to racialise life itself in the eighteenth and nineteenth centuries, allied to the categorisation of species in European biology from the sixteenth century. In Lessing's novels, there is no culmination of violence in this project, but rather ongoing brutalisation, dehumanisation and extermination in support of maintaining a racial hierarchy. Historically, this project has determined decisions about the capacities and behaviours of differentiated living populations (human and non-human). It facilitates the co-option of genetics into eugenics in the late nineteenth century to mount a scientific justification for imperial subjugation of 'non-whites', in defence of racial hierarchy: certain genetic 'types' are considered to be fitter than others with regard to their hereditary germ-cell material (with regard to criteria of intelligence, physicality and so on), and certain populations are naturally predisposed to certain kinds of labour.

I understand 'whiteness' not as a biological category, but as signifying a social position, following Noel Ignatiev's definition:

Whiteness has nothing to do with culture and everything to do with social position. It is nothing but a reflection of privilege, and exists for no other reason than to defend it. Without the privileges attached to it, the white race would not exist, and the white skin would have no more social significance than big feet. ('The Point of Whiteness')

For Ignatiev, whiteness refers to a set of conventions, rather than signifying something 'natural'. This is similar to Paul Gilroy's project 'to introduce a more sophisticated theory of culture into the political analysis of "race" and racism in Britain by claiming the term back from ethnicity [as] a calculated challenge to the absolutist definitions of "race" and ethnicity' (4). In order to understand racism, it is important – for both Gilroy and Ignatiev – to capture 'race' as a governing fiction, rather than any kind of essentialist cultural and/or biological truth. Gilroy argues that in the British context, racial borders and national frontiers are inextricable; British national history must be read alongside 'the racist logic [that] has pinpointed obstacles to genuine belonging in the culture and identity of the alien interlopers' (46).

I read *Memoirs* and *Shikasta* as interventions in a conflict around race relations in Britain after post-war migration from former colonial territories, particularly India, African nations, the Caribbean, and the Republic of Ireland. While *Memoirs* demonstrates the challenge of escaping the social reproduction of whiteness, *Shikasta* explores the ideology of interwar utopian transhumanism, which implicitly adhered to a racialised economy of 'good' genes. In different ways, these novels reconstruct how whiteness functions in the broader field of biopolitical power wielded in the name of nation and empire. Through this, these novels challenge the typological construction of life itself into differentiated and unequal socio-political units through racialising practices. By confronting whiteness as a social position, rather than a narrow demarcation of ethnicity, *Memoirs* probes the discursive limits of a liberal subject legislated on the exclusion of others. The intersection of race and social organisation went through different phases in Britain during the nineteenth and

twentieth centuries, in synchrony with the requirements of labour for industrial production, resource extraction and exchange out of colonised territories, settler domestic policies of land demarcation and apartheid, and post-war migration to the imperial centre from former colonised territories, oscillating between a taxonomic grid of assigned places (racial hierarchy) to a more porous scale of economic position (multiculturalism). In both instances, 'whiteness' remains a stable category of sovereign power.

The second project of whiteness redirects the focus from racial superiority to multiculturalism, which appears in *Shikasta* under the euphemism of 'genetic usefulness', while continuing to centre whiteness as the neutral, privileged category of existence. Both projects are a way of establishing a natural (biological) order out of social conventions. This culminates in a mock trial at the end of *Shikasta* in which these two projects take the position of defendant (racial hierarchy) and prosecutor (genetic usefulness). *Memoirs* and *Shikasta* do not present multiculturalism as a post-colonial remedy to imperial racism, but as a continuation of it.

Multiculturalism depends on the transition of phenotypic racism to what Tariq Modood calls 'cultural racism': in Steve Garner's words, the idea that 'people's cultures are read as determining levels of civilisation, intelligence, and ways of doing things' (Garner 447). Judith Butler argues, 'Multiculturalism tends to presuppose already constituted communities [and] already established subjects' (31-32). For Butler, multiculturalism depends upon discursively produced gaps between groups in order to come into existence. That is, the concept of multiculturalism itself depends upon a simultaneous articulation and division of cultures based on discursively produced signifiers of difference, such as race, class, gender and religion. This division of cultures is then mapped onto space through the notion of 'community'. Critical for the argument in this chapter and throughout the thesis, which I also identify as a critique in Lessing's space fiction through their representation of racialising techniques, is Butler's following argument:

[I]t remains clear that liberal norms presupposing an ontology of

discrete identity cannot yield the kinds of analytic vocabularies we need for thinking about global interdependency and the interlocking networks of power and position in contemporary life. (31)

In comprehending the globalised logic of power networks grounding division of labour and distribution of resources, the typological system of classifying humans is not only reductive, but should also be understood as *constitutive* of this unevenness. Doreen Massey discusses the mapping of society onto space as a technique of Western imperial hegemony, arguing that it is a particular strategy of an imperial modernising project that categorised and segregated different groups in a project of 'organising global space' (64).

Both Massey and Butler attribute this mapping of culture onto space, and the accompanying iteration that different cultures represent pre-constituted communities, to strategies of power relations in which capitalist imperialism asserted dominion by arranging the globe through a hierarchy of communities. This is what I read Lessing exploring throughout her space fiction. For Butler and Massey, as in Lessing's space fiction, what is at stake is not 'already constituted communities', but rather 'communities not quite recognised as such, subjects who are living, but not yet regarded as "lives"' (32). This ongoing theme reaches its zenith in *Planet 8*, with the extinction of the genetically-engineered population on an outpost of Canopus. The point there is not just that they are not deemed important enough to Canopean interests to be saved by transport to another planet, but that their extinction is foreclosed by Canopus's invention of them. Their 'lives' are not deemed 'lives' by Canopus.

Multiculturalist discourse is a developed version of the eugenic management of space in a biopolitical regime. Foucault argues that the emergence of biopower in the nineteenth century, which he calls the power to 'make live and let die' as opposed to the sovereign right to kill, 'inscribes racism in the mechanisms of the state' as 'the basic mechanism of power' (254). Racism, he argues, 'is primarily a way of introducing a break into the domain of life that is under power's control: the break between what must live and what must die' (254). A hierarchy of races disrupts the 'biological continuum of the human race'

with 'biological-type caesura[s] within a population that appears to be a biological domain' (255). Foucault's use of qualifiers here – 'type' and 'appears to be' – point to the construction of biological essentialisms around the notion of 'race', while questioning their validity. Race caesura give governments 'the power to treat that population as a mixture of races, or [...] to treat the species, to subdivide the species it controls, into the subspecies known, precisely, as races' (255). Thus, racism 'creates caesuras within the biological continuum addressed by biopower', and racism is the 'indispensible precondition that allows someone (else) to be killed' (255). Multiculturalist discourse, based on racialising techniques, facilitates violence by displacing biological caesuras into cultural ones. It is not the feature of a progressive society, but holds within it this potential for exclusionary violence, constantly reiterating imperial typology.

In this discourse, race continues to function as a medium – a semiotic configuration – that enables violent and oppressive relations; in Foucault's words, by 'appealing to the principle that the death of others makes one biologically stronger insofar as one is a member of a race or a population, insofar as one is an element in a unitary living plurality' (260). This third clause is key to his argument about racism in socialist analysis; the problem across both 'left' and 'right' that allows racism to stand as the concept justifying the death-function is 'unit thinking', the grounding of democratic political structures of one-man, one-vote, and in the development of statistical imaginary as applied to 'populations' during the eighteenth century in Europe. Racism is not only a function of governance, but also becomes necessary in a 'one-to-one' encounter with an adversary carrying different cultural articulations into battle. It becomes the language of a binarised political field.

Before the 1930s and the rise of Nazi eugenics, eugenic thinkers across the political spectrum adopted genetic epistemology as a vehicle for the project of full-scale social improvement from the turn of the twentieth century. Biologist Ernst Mayr argues, 'When one reads the literature of the first decades of this century, one is amazed at the virtually universal popularity of eugenics. It was supported by writers from the far left, all across to those of the far right' (83-4). Eugenics historian Mazumdar agrees, writing that in the early phase of genetic

research, '[A]lmost every geneticist in Britain, the United States and Germany who was interested in human studies at all was involved with the eugenics movement' (58). When Foucault argues that socialist racism was 'liquidated in Europe' by the 'domination of social democracy' and its attendant reformism, as well as by the Dreyfus affair (*Society* 262-63), this does not apply to the British utopian socialists. If eugenics was born out of Victorian racism towards the colonies as a way of justifying killing a declared other in the name of whiteness (as 'reason', 'civilization', 'society'), or stealing their bio-energy through slavery or exploitation, it bore this legacy across the political spectrum in the first four decades of the twentieth century. The 'science' of racism was incorporated into eugenic pedigree models alongside genetics, through physical anthropology and evolutionary theory from the late nineteenth century, as Nils Roll-Hansen has argued (8). Eugenicists in Britain used their doctrine to claim differential birthrates and declining national intelligence, suggesting that eugenic measures be put in place to prevent national decline.

Science historian Daniel Kevles explains the distinction between 'positive' and 'negative' eugenics: 'positive' eugenics, following Mayr, is the idea of 'increasing the frequency of desirable traits by encouraging reproduction by individuals with these traits', and 'negative' eugenics would be ways to eradicate undesirable traits. Kevles also distinguishes, somewhat along this line of analysis, between 'mainline' and 'reform' eugenicists. According to mainline eugenicists, altering the environmental conditions for certain sections of the population – adequate housing, better education, free healthcare – would not save them from the defective material they carried in their germ cells. The reform eugenicists reconsidered the intersection between eugenic measures and 'soft' environmental reform, suggesting a delay of the former until the latter had been properly implemented. However, Kevles's distinction between 'mainline' and 'reform' eugenics is still situated in the widespread interest across the British Left and Right from the late 1800s to the mid 1930s in improving the general hygiene of a population along intersectional grounds of race and class. Philosopher of race Nathaniel Coleman frames the problem of commemorating the invention of eugenics in British history in the following way:

Eugenics is a two-edged sword: as much a concern of the pre-First World War British Fabian Left as of the pre-Second World War German Nazi Right, it intellectually underpinned policies not only of segregation, sterilisation and Shoah, but also of birth control, public hospitals and the welfare state. ('Eugenics: The Academy's Complicity')

The ambition of social improvement through biological intervention across both Left and Right, as exclusionary and meritocratic discourse, as well as multiculturalism, took whiteness as a social position as a governing narrative; race-blindness was grounded in meritocratic discourse about the best members of racialised groups rising to the surface. Its legacy is more than a historical moment in time, but underpins contemporary distribution of education, housing and healthcare, and, increasingly, private insurance.

If the Galton phase of eugenics was based on what Foucault calls a disciplinary society which, in Gilles Deleuze's words, 'organises vast spaces of enclosure' (3), the second phase anticipated what Deleuze calls a 'control society', following a generalised crisis of institutions, and characterised by endless and open modulation. British eugenics in the first phase is about enclosing the immutable germ material and protecting it through biopolitical institutions, implemented within the time frames of a closed system. Eugenics in the second phase anticipates the replacement of the individual with 'masses, samples, data, markets, or "banks"' (Deleuze 5). In this second phase, the socio-scientific pursuit of either extracting or enhancing genetic predispositions takes 'unit thinking' to the de-individuated level of gene clusters or traits, based on the scientific fallacy of constructing 'genes' coding for X or Y characteristic as both heritable and eradicable. The Galton phase of individualised racial hierarchy in a disciplinary society is replaced with the Haldane phase of genetic usefulness in a society of control. Reading *Memoirs* and *Shikasta* together, it is possible to map this onto the governmental logics they represent. While Kevles and Mazumdar read British eugenics as primarily a discourse around class, I read it more broadly

as articulating a concern about social position, out of which ‘the race question’ was formed. This question does not disappear in a control society, but rather is displaced onto a genetic imaginary that focalises these assumptions through data collection and policy practices. Multiculturalism in *Shikasta* relies on concepts and technologies of ‘genetic usefulness’ as a stand-in for former racial categories of imperial racism.

Read together, *Memoirs* and *Shikasta* register the transition of eugenic thought from racial purity to genetic utility that took place in the British Eugenic movement, going from the racial hierarchy of Francis Galton (as Professor White) to the transhumanism of Haldane and Huxley (as Canopean agents Johor and Klorathy). This ideology appears as characters trying to control or regulate their environments, that is, at the level of content. It is the second legacy of transhumanism that is relevant for current debates around (and uses of) genetic engineering. In terms of the social history of genetics, ‘race’ does not disappear as a category of judgement, but is reformulated into the language of genetic goods. What is significant about Galton’s legacy for my readings of *Memoirs* and *Shikasta* is the ambition to deploy eugenic strategies (particularly selective breeding) as a governing technology along the lines of racial typology, an ambition that both novels rehearse.

### **Whiteness in crisis in *Memoirs***

*Memoirs* portrays the reconstitution of whiteness within a wider project of racial hierarchy at a point of national crisis in a city representative of a former imperial centre: unnamed, but recognisably London. This crisis is partly constituted by the long-term disintegration of the imperial topography of British nationhood – Britain and her imperial territories – from Indian independence, to the Suez Crisis, to decolonial movements in the African colonies. This was before the recentralisation of purchasing power to the United States and the deregulated finance capitalism of the Reagan and Thatcher administrations in Anglo-America, charting a point in time when a new world order becomes possible out of the temporary global alliances between the feminist, civil rights, disability,



anti-colonial and LGBT movements of the 1960s. Lessing stages the psycho-social establishment of neo-colonial white supremacy through the ruse of white female leadership, drawing out the chasm between a first-wave feminism allied to a eugenic utopian socialism, and the full implications of the anti-colonial agenda, which would be the abolition of whiteness as a position of privilege (rather than a cultural or racial marker).

*Memoirs* asks what might happen when the historical basis for the privilege of whiteness is threatened by the emergence of post-colonial counter-histories after the disintegration of empire, staging this question in a dystopian future. The dystopic space allows a speculation on the fragmentation of whiteness during a 'real' moment of social crisis, amidst anti-colonial struggle and independence movements in the colonies, the economic recession of 1973-76 after the oil crisis and 400 per cent inflation in oil prices, the crisis of the post-war finance institutions, and the three-day week imposed by Edward Heath's government to conserve electricity due to strikes by coal miners. The three-day week forced a conflict between middle-class workers' reliance on civic infrastructure to support a five-day working week and the working-class for fair pay; the suspension of state services closed off mobility. This conflict can be read into the prevailing sense of claustrophobia in *Memoirs*, with middle and working class workers forced to share limited resources, and the middle class confined to their residences rather than moving through the city for work.

By constructing a dystopian crisis out of an unspecified disaster, the narrative centres the characters' experience of it, rather than reconstructing a specific history. The dystopic space is a platform for the end of a historical era, as well as the possibility of something new being constructed out of a prevailing atmosphere of isolation and abandonment, where the state network has fallen into disuse, and where the fragments of imperial history assemble haphazardly and a-chronologically in the ruins of the present. Rather than a realist narrative that would confine interpretations to a specific history, the dystopia of *Memoirs* invites the reader to imagine the effects of the general crisis of late modernity, and to enter the long history of European imperial violence behind the walls of the narrator's flat. The anonymity of the nameless city is woven with references

to social movements of the period: the civil rights movement in the US, decolonisation, and first-wave feminism, while the 'Authority' remains nameless and the city unknown. The narrator notes, 'Attitudes towards Authority, towards Them and They, were increasingly contradictory, and we all believed that we were living in a peculiarly anarchistic community' (MS 5). Various historical examples of violence and resistance are placed here synchronically, outside the linear temporality necessitated by realism.

Lessing is also pushing at the seams of social organisation, exploring this period both through a general collapse and limited opportunity for reconstituting social norms. Missing this opportunity paved the way for the constitution of a new liberalism organised by the financial governance of the Euro-US in the late 1970s, leading to a society of control, rather than discipline, where the '[wo]man of control is undulatory, in orbit, in a continuous network' (Deleuze 6). At the end of the text, the walls dissolve and with them, the characters of a former disciplinary society. This marks a transition from leadership in a disciplinary society. If, in the disciplinary society, 'any relation that is not supervised by authority or arranged according to hierarchy' is terminated (*Discipline and Punish* 239), in a society of control 'what counts is not the barrier but the computer that tracks each person's position – licit or illicit – and effects a universal modulation' (Deleuze 7).

In this collapsed order, *Memoirs* shows two ways in which the inheritance of whiteness as social position is reconstituted: first, through the attempt to whitewash the memory of European imperial violence while the imperial centre falls apart, with the narrator applying white paint to the walls of the rooms behind the wall. There are various indications that it takes place in a version of London. As 'London' burns and groups migrate out of the city, the narrator finds another space in her flat, a kind of double world of disused rooms littered with broken or destroyed commodities of empire. The narrator describes the block of flats she lives in: not a council block with 'lifts stained with urine and graffiti on the walls', but a private development, once protected by a caretaker, 'built by private money' (MS 6), that at one time had stands of artificial flowers in the hallway. The crisis has meant that,

[B]y that time, with so many people gone from the city, the families who lived in these blocks were not all the class for whom the buildings had been put up. Just as, for years, all through the eroding streets of the poor, empty houses had been taken over by squatters settling in families or groups of families - that for a long time it had been impossible to say, 'this is a working-class area, this is homogeneous' - so, too, in these great buildings once tenanted only by the well-to-do, by the professional and business people, were now families or clans of poor people. (MS 6)

The language the narrator uses should make us suspicious of how effective this supposed breaking down of class barriers at a time of crisis has been. While urban infrastructure has been made communal by the crisis, living space remains segregated. We should note the words 'squatters' and 'clans': 'squatter' holds the implication of homelessness and trespassing, and 'clan' implies a tribal identity, pre-urban: etymologically, from Old Irish 'cland' and Scottish Gaelic 'clann' (offspring, family), rather than Norman or Hanoverian. It also signifies a group identity, the migration of an entire genetic cluster, and again signals an invasion. Despite this initial description of crisis breaking down class barriers or at least making them - practically - obsolete, there is still a clearly racialised hierarchy. These words draw a racialised border between the narrator and the newcomers with regard to class and place of origin. She is the neutral not-clan, the not-squatter, the permanent resident, the settled, singular. 'They' are the multiple, the pagan, the destitute, the migrants. Thus, while social organisation has changed as a result of this unknown crisis, the stratification of social hierarchy based on owning of private property remains. The names of the people living on the ground floor of the building along with the narrator are the Whites, the Smiths, the Jones, Miss Foster, Miss Baxter - Anglophone names. They are not multiples, but 'self-contained units', one or two people per flat, and the narrator barely sees or talks to anyone on her floor (MS 113).

Compare this to the Indian family from Kenya, the Mehtas, and the Irish-Polish family, the Ryans, who live upstairs. These families are described in the language of sprawl, not in a proper place, always in motion. The Mehta children – appearing as a group, a multiple – are playing in the street, outside. To the narrator, they appear as a uniform group of ‘dark-skinned boys and girls, all dazzling white shirts, crisp pink and blue dresses, white teeth, gleaming hair’ (MS 15). She breaks them down into details that appear to her – implicitly setting up a contrast of their pale clothes and white teeth with the darkness of their skin, how they appear en masse to her. To her, they are a mass of contrasts of colour, simply appearing. She never speaks directly to them; their communication is restricted to a nod and smile. She accesses Mr Mehta’s informal economy upstairs, which she compares to a street market, ‘through an irregular gap in the wall’ (MS 116), hidden behind a heap of things. The Mehtas are narrated through an orientalist veil of excess and irregularity that exists simultaneously with the ordered white world below where the narrator has come from, supposedly part of this territory but split off from it.

If the Mehtas have carved out a space of informality to supplement their exclusion from state provision, then the Ryans are narrated through their exhaustion of welfare resources. Mr Ryan is a violent and alcoholic Irishman, Mrs Ryan a Polish refugee; both are Catholics. Catholicism here is implicitly placed in opposition to the Anglican whiteness of the narrator and Emily, and also serves as a signifier of uncontrolled reproduction and the profligacy of the poor, straining the resources of the state. The parents are usually drunk, the eleven children will not stay in school, and their fifteen-year-old daughter gets pregnant (MS 118-19). They do not hold the same social position of whiteness – coded Anglican British – as the residents of the ground floor, and it is always from this position that we see these characters. In her description of the Ryans, the narrator remarks, without intended irony:

It often happens that a single case takes wing out of its anonymity and represents others; in our city alone there were thousands of “Ryans” of all kinds, colours, nations, unknown except to their

neighbours and to the authorities, and these people in due time found themselves in prison, Borstal, remand homes, and so on. (MS 118)

The Ryans are made to stand in for all types of non-white groups, representative of a mass of the unemployed, ‘unknown’, and perhaps dissolute, who cause social problems that neighbours and authorities have either to take on or solve. This mass is multicultural, made up of what Butler might call ‘already constituted communities, already established subjects’ (Butler 31). The narrator’s description has no insight or interest in the Ryans except as a social ill, a general degeneracy; they could be any number of non-white communities, described as ‘subjects who are living, but not yet regarded as “lives”’ (Butler 32).

The narrator’s description of the Ryans articulates a classic neo-Malthusian anxiety of the over-breeding of ‘the urban poor’, racialised as non-white and classed as the proletariat or sub-proletariat. Thomas Malthus’s arguments in his *Essay on the Principle of Population* (1798) set the stage for Galton in terms of constructing poverty as a natural category of certain kinds of human, the poor characterised as ‘fecund beyond their limited resources and unconcerned at bringing weak or poor stock into the world’ (Levine 52). In the era constructed in *Memoirs*, the repeated construction of an ideal subject prevents reconfiguring the founding mythology of British nationalism based on whiteness, no matter how multicultural its population or progressive with regard to welfare policies the society is or has been. As I explore in the next section, Emily is constructed as white female leader, a subject position whose bonds she cannot stay within, and she is unable and unwilling to break from the implied obligation to reproduce whiteness.

If ‘race’ is the conceptual field for the biologisation of human suffering, then class is a region within this field. Class position is racialised in so much as it constitutes a biological division in behaviour and capacity. Class division is a biological caesura, a fixed position carrying innate qualities. The racialisation of class is key to Ignatiev’s idea of the malleability of whiteness as a social position. Hence, the Catholic Irish in the nineteenth century ‘became white’ through

migration to and settlement in the United States, which led to their becoming 'part of an oppressing race in America', and consequently, 'the formation (or non-formation) of an American working class' (*How the Irish Became White* 1). While the first phase of the British Eugenics movement was characterised by the idea that immutable genetic stock resulted in natural social divisions, proponents of eugenics during the second phase considered social reform to be paramount in ensuring a level playing field of welfare – 'evening out' the environment – before any eugenic programme could be undertaken. Nonetheless, both projects were embedded in a class-race intersection of discrimination, and their end-goal, declared or not, was the protection and/or maintenance of whiteness as 'naturally' superior.

The rooms on the other side of the wall function as a historical imprint, and an explanation for these social divisions. There, Empire is materially reconstructed. The disused rooms contain the objects of disintegrating dominion. One room is described as an eighteenth century salon of the 'French, Second Empire,' a rich and formal room, scattered with old wood furniture upholstered in silk, commodities of Empire, laid to waste, in disorder, full of piles of rubbish. Another looks like the scene of a recent battle:

The place looked as if savages had been in it; as if soldiers had bivouacked there. The chairs and sofas had been deliberately slashed and jabbed with bayonets or knives, stuffing was spewing out everywhere, brocade curtains had been ripped off the brass rods and left in heaps. The room might have been used as a butcher's shop. (MS 40)

Savages and soldiers are the characters of a scene of colonial invasion. The semi-colon between the two groups is important: it suggests a relation of equivalence between 'savage' and 'soldier', making it unclear which side committed violence. The scene describes a disembodied destructive force, an invisible tearing apart of an established order. There are two different historical moments suspended together here: the violence of the colonial invasion and the spoils of imperial

wealth. Confrontations between 'savages' and 'soldiers' happen at frontiers of invasion, and here the frontier is the salon brought into existence by a European project of wealth accumulation through territorial acquisition. The space behind the wall compresses these two moments, whereas in chronological time they are divided into discrete units of historical record (or left out entirely). Imperial trauma has become part of the cultural backdrop, along with the echoes of global freedom struggles of the twentieth century. There is the scene in the real world when a group of young people are leaving, and they sing 'We shall not be moved', a song of the civil rights movement, and 'Down by the Riverside', a Black spiritual. When the narrator is walking through the old hotel, she likens it to an African township outside a mine where the black workers live. This can be read as Rhodesia, urban ghettos where the miners lived, and strike after strike leading to the independence movement; the Rhodesian Bush War was ongoing at the time of *Memoirs*' publication.

The narrator tries to intervene in these memories and cover them over. Distressed by the chaos and disorder she finds again and again on the other side of the wall, she decides that she has to repaint the 'forlorn and shabby walls' of these rooms:

I started on a room I knew well: it was the drawing-room that had brocade curtains and pink and green silks and old wood. I stacked what was usable in the middle of the room under dust-sheets. I scrubbed down the ceiling and walls with sugar-soap, with hot water, with detergents. Layer after layer of white paint went on, first dull and flat, then increasingly fine, until the last one covered everything with a clear softly shining enamel, white as new snow or fine china. It was like standing inside a cleaned-out eggshell; I felt that accretions of grime had been taken off which had been preventing a living thing from breathing. (MS 65)

Immediately after this, she forgets the room, and she never sees it again. This is a scene of obliterating memory of the failure of Empire, painting over the

shabbiness of these old rooms. At the same time the material signs of colonialism are embedded in the process of cleaning the room. Silk, old wood, and sugar-soap are commodities put into global circulation by capitalist imperialism. The cleaned-out eggshell connects whiteness and origin, as if she is responsible for restoring a 'pure' state. This purity can only be reached through synonyms – 'white as new snow', '*like* standing inside a cleaned-out eggshell' (italics added). In a sense, the inaccessibility of purity in reality articulates it as a speculative desire, and an unobtainable fantasy. Nonetheless, it is a fantasy that the narrator invests her efforts in upholding.

These scenes represent a restricted historical moment where whiteness functions as double consciousness. The crisis shows up the fragility of this whiteness, making the narrator conscious of it, but in an alternative world. The act of cleaning, white-washing, of painting over gestures to what postcolonial theorist Anne McClintock has called 'the hidden affinity between domesticity and empire', in which 'soap entered the realm of Victorian fetishism with spectacular effect.' Soap symbolises rationality, cleanliness, and domesticity – both the repair of bodies to a pure, 'new' state of being, and a symbol of the capacity for reason. Soap is important here for two reasons: first, it takes off accumulated grime from the walls of the room, gesturing to a fear of contamination, and of obscuring whiteness. Second, the activity of washing and painting over figures for the doubled condition of colonialism: 'whiteness' as a social position must create its own origin by obscuring or eliminating what has come before. Sugar-soap as a substance for cleaning also refers to sugar plantations and the slave trade. The 'old' white world is remade by erasing or subjugating the 'new'; they are mutually constitutive under the sign of imperial domination.

### **Reconstituting Whiteness: Eugenic pairing in *Memoirs***

The pairing of Emily and Gerald as the leaders of the post-crisis social order is implicitly eugenic. The narrative sets up pairs of pre- and post-crisis authority



figures: the narrator, confined to the walls of her apartment, and Emily, able to move between spheres but unable to escape her own socialisation; Professor White, the white patriarch 'placed high in administrative circles' (MS 56), who patrols the borders of his territory (the block of flats) like a sergeant, and Gerald, post-crisis white male vanguard who oversees a network of subordinates on the streets and in squats, upholding racial and sexual norms of imperialism for the sake of maintaining the network. The difference is that in this new order, it does not matter 'who' comes and goes, as long as whiteness retains its position. Emily is constructed as a white, female leader through the childhood scenes on the other side of the wall, and the 'coming of age' scenes in the 'real' world between (female) flat, (anarchic) street and (male) commune. The question here is not whether Emily is racialised into whiteness and gendered into a fertile, sexually active female, but how her inherited socialisation in the unconscious realm behind the wall prevents her from making a radical break with the past, despite points at which she seems to desire it (drawn out in the conclusion of her relationship with the Catholic Irish girl, June Ryan). *Memoirs* charts the difficulty of changing a society that has become defined by its invention and maintenance of a racial hierarchy of social positions, even at a moment of disaster where old rules seem to be suspended.

This eugenic legacy goes back to Galton, whose ideas set up a framework for biologising race as a technology for improving the white race through selective breeding, rather than only as a justification of imperialism. Galton's instrumentalisation of Charles Darwin's arguments about inheritance in *The Origin of Species* (1859) in *Hereditary Genius* (1869) allowed him to posit biological heredity as the cause for innate inequalities between humans, and to imagine class as a sub-category of race. Galton argues that intellectual ability is inherited through parents, and that a 'high reputation is a pretty accurate test of high ability' (11). For him, hereditary superiority surfaces through social rank, and he speculates that 'it would be quite practicable to produce a highly gifted race of men by judicious marriages during several consecutive generations' (11). He ranks black Africans below white Europeans in terms of natural ability, and argues that the ablest race in history was the ancient Greeks: '[T]he average

intellectual standard of the negro race is some two grades below our own' (307). Science historian Philippa Levine points out that Galton's link between race and natural ability was 'fostered in a climate suffused with notions of European imperial superiority, bolstered by a growingly confident scientific establishment' (6). His invention of a science of 'good (eu-) origins (-genes)' to bolster his phylogenetic ranking of human capacity became, in the twentieth century, inextricably linked to genetic theory; a biological justification for social organisation which placed European man – whiteness – at the top of the tree.

What is important about drawing Galton into a reading of *Memoirs* is his justification of eugenic partnerships on the basis of reproducing 'good stock'. I read Emily as a characterisation of Galton's continuing legacy, a vessel for British whiteness, and the narrator as its historian. Behind the wall, the narrator observes Emily being socialised into this position. Emily is first racialised as white, and then socialised into her desire to reproduce this whiteness with Gerald, competing with June for the position as Gerald's primary partner. The notion of eugenic pairing to protect and ensure the inheritance of white morality comes through in the implicit coupling of Emily and Professor White, displaced onto her relationship with Gerald. Professor White's professional title places him in the position of intellectual, granting him access to special bureaucratic privileges: food supplies and eventually an escape route for himself and his family out of the city. Given that there is no other professor in the text, the name 'Professor White' works as a tautology; in this text, to be a professor means also to be named as white. He functions within a sphere of dominance, regularity and order, where nothing is out of place:

Professor White would come out of the lobby and down the steps and then stop, looking up and down the street, almost in a military way: Who goes there! Then, reassured, he stood for a moment: almost he could be imagined pulling on a pair of gloves, adjusting a hat. He was a slight man, young for a professor, still in his thirties; a precise, an ashy, man, with everything in his life in its proper place. (MS 28)

Professor White is the bastion of a certain kind of old order. Even as the White family are escaping, there is the appearance of regimentation and planning. The narrator notes, 'The Whites, as if nothing had happened to our world, were off on a journey' (MS 191). Gerald can be read as a post-crisis manifestation of Professor White, creating his own institution of discipline and development for the children of the street; in some ways, he is a post-Enlightenment manifestation of William Godwin, with 'his need to protect the weak, his identification with them' (MS 93), while also performing the role of the white patriarch required to mark his territory and sphere of influence.

Gerald resurrects Professor White in a post-crisis society of control. His benevolent persona masks a civilising mission that, while reminiscent of empire, demonstrates his ability to incorporate others as subordinates into his network not through the use of military force, but through what Deleuze calls 'continuous forms of control [and] perpetual training' (7). This comes out in his interactions with the Underground children, the anarchists of the text and the only group functioning with a radically novel communication system. Gerald's response to their 'savagery' is to 'separate them and put them into households in ones and twos' (MS 181), to reduce their capacity for collective action by splitting up the group, and to domesticate them in households, socialising them into pre-crisis normative forms of communication and behaviour. Yet, while he attempts to re-establish heteronormative propriety and to reproduce the same social order, the disorder of these households and the haphazardness of their arbitrary construction, represent the deployment of a familial structure *as such*, rather than as a *natural* end. The power that Gerald exerts over the Underground children is not disciplinary in a punitive sense, but represents an ongoing form of socialisation without reference to an origin. It is the transformation of social order as a natural one, to a conventional one, which still maintains the reference (self-consciously abstract) to symbolic power.

Gerald and Emily seek to improve society through their partnership, adopting a different set of governing techniques. In Gerald and Emily's living space, there is 'no furniture at all, but there were curtains, and shutters were scrubbed and whole, and mats and mattresses were rolled and stood along the

walls'; the communal rooms of middle-class domestic organisation are gone – dining room, sitting room (MS 128). There is only a 'long room for eating, with trestles and benches, everything scrubbed bare'; apart from this, 'each room was self-sufficient as a workroom or as a home' (MS 128). The function of objects – mattress, table – are not fixed, but used according to need, and belongings are distributed among the community. This sparse space is stripped of the commodities laid to waste on the other side of the narrator's wall, the rolled-up mattresses act as ramparts against the walls, where the past might lurk, and private ownership has been overturned in favour of communal property. Yet even here, Emily tells the narrator, "It is impossible not to have a pecking order. No matter how you try not to", as the narrator watches the way the nameless children react when they see Emily: 'This was how people respond to Authority' (MS 129). Emily is the reluctant leader in this new society, run through controls which function 'like a self-deforming cast that will continuously change from one moment to the other', where the inhabitants are defined 'dividuals [...] in a continuous network' (Deleuze 5-6). Emily's complaint about a pecking order is not a Hobbesian observation about the necessity of government to suppress the natural human tendency to violence, but rather an acknowledgement that while she and Gerald have attempted to repress the memory of the old world, she has nonetheless risen to the top of the government, and not by accident.

This control society is an extension of the disciplinary one, not a radical break with it, and follows the same protocols of racialisation and sexual socialisation. Emily is prepared to reproduce whiteness by choosing Gerald, the rational, enlightened benefactor, as a sexual partner. Instead of resisting the old world, Emily is also socialised into it; behind the wall, she becomes white. The scene of trying on the white dress shows her trying on various kinds of social possibilities for inhabiting the place of a white female leader; 'most often' the dress is a bride's dress, connoting marriage; then a young girl's dress for purity and innocence; then a transparent night-dress to signify a sexual availability and consequently fertility; then an evening dress to connote her mastery of polite society. There is no 'real' Emily to be seen here, either in the trying on or in the assumption of various positions; 'she' slips between roles, invisible to the

narrator, who has forgotten 'the hidden person in the young creature [...] the self which instructs, chooses experience – and protects' (MS 57). The narrator's 'forgetting' is not a simple sign of senility or being elderly; rather, she is only able to conceive this 'self' in an abstract sense, as an ideal, while in the 'real' world of lived experience, 'Emily' moves between archetypes. This schizophrenic subjectivity facilitates the development of this new society of control.

Behind the wall, the younger Emily overheats in a 'hot white room, where the red flames pulsed out heat, filled the heavy white clothes on the bars with hot smells' (MS 45); the room contains the atmosphere of an impending explosion, a fire at the centre of this whiteness; 'hot white' being a reversal of 'white hot', a core instability that holds everything else together. There is the threat of sexual abuse from her father, and being ignored or told off by her mother: for both, she is the fetish-supplement to a marriage without sex, an object available either for the punishment or sexual enjoyment of her parents. She is obliged to escape from her own dirtiness, to negate it, to surround herself in white, to constrain herself within the social codes of her inheritance. These scenes are about the construction of female sexuality within this white heat, a visceral force that obliterates and destroys. 'White' as a descriptor is repeatedly applied to objects. Following Ignatiev, this should not be taken as a narrative attempt to work out what whiteness is or to interpret it. Rather, the constant repetition of this word draws attention to the narrator's failure to comment on it. It is the elephant in the room in this control society that now calls itself 'multicultural'; whiteness is the singular, the fixed, the constant and the neutral, through which subjects are positioned, the medium through which all other data are tracked and measured.

Emily's role is to manage the domestic affairs of a patriarchal public sphere; that is, British, Anglican, and white. This is what she is being prepared for in the scenes behind the wall. These scenes produce the intersectional rupture between June and Emily that takes place across their respective racialised and classed difference, the constant in this situation being their shared socialisation as female. The alliance is challenged and eventually annihilated by the difference in value assigned to their bodies in this reconstituted economy of

whiteness. Irish-Polish Catholic June is described as smaller, younger, in awe of Emily, in love with Gerald. Emily adopts her like a child, looking after her like a benefactor, but refusing any kind of equal relationship. When Gerald has sex with June, Emily knows that this marks a break in her relationship with her; she seems frustrated by the protocols that demand this break, as if she is trying and failing to resist a script for feminine friendship fractured by uneven male sexual attention. She says to the narrator that she is upset because, 'June was my friend and now she isn't' (MS 141). The narrator wonders why, because she knows Gerald will be on to the next girl soon enough. Emily also knows that he has to 'make the rounds' of female bodies within his network; she describes him as 'like a cat marking his territory' (142), tracking and incorporating, a constant modulation, the surveyor of the control society he and Emily have created.

It does not occur to Emily to leave Gerald, but to blame June. The narrator wonders why does Emily not take the opportunity to begin her own group of outcasts, and supplies her own answer: Emily is in love. What is this love? It is the desire to belong but also to manage, to co-parent, to nurture. She cannot be a friend to June, because under the sign of heteronormative patriarchy, she needs Gerald as her primary source of protection. She wants Gerald to change, but she does not want to change her social position; on the other hand, she acknowledges that this position (of competition) is what separates her from June. The body socialised as female becomes a border crossing for marking imperial topography, with Emily as the core, and June a peripheral territory. This is all part of the longer game of making herself Gerald's primary partner. June, on the other hand, comes back from her sexual experience with Gerald traumatised. The word 'raped' is not used, but June's growth has stunted, falling apart after a premature sexual relationship. She echoes the younger Emily behind the wall: the proxy child, a sexual object for the father (Gerald), and a punishable body for the mother (Emily). The Irish famine of 1845-52 can be drawn in here: June's sexual availability stands in for Irish resources seized by the British government, and her physical degeneration for the extermination of millions as a result.

Yet June does escape this, perhaps echoing post-famine mass migration of the Irish to the US (again, the dystopian compression of historical time in the

novel permits this speculation). She leaves without any kind of conventional farewell, disappearing with 'a band of women', similar to the disappearance of the anarchist children (MS 160). To recall Butler, neither June nor these children can be properly regarded as lives in this world, where the supremacy of whiteness demands reproduction. June is both a tragedy and the survivor of the 'real' world. Her body is almost wrecked by a premature sexual experience that may or may not have been coerced, by the racialised inequalities that come with her social position, enabling her to be made object, a marker of Gerald's political territory. When she returns to the narrator's flat after her experience to be nursed by Emily, she is 'listless', suffering from an unnamed 'malady', drained (MS 158-59). The narrator does not want to protect her and June's eventual departure is inconsequential; when hosting June, the narrator confesses to the reader, but not to Emily, 'The truth was I would have liked her to leave' (MS 161). Yet when Emily weeps after June's departure, it is not just because she has lost a friend, but because she knows that the absence of a farewell demonstrates the rupture between them, drawn out through the violence inflicted on June's body by the new order, dividualated, not an object for discipline, but part of a 'universal modulation' of Gerald's network control (Deleuze 7). June's departure brings into relief Emily's own dividualated value in this system, as carrier of a pigment-information, the bearer of a 'code of "dividual" material to be controlled' (Deleuze 7).

*Memoirs* demonstrates the continued organisation of communities within racialised categories, while representing the maintenance of a racial hierarchy. Despite the post-war migration of former colonial subjects to the imperial centre, and despite the political desegregation of racialised groups in the name of multiculturalism, Emily's movement throughout the novel, on both sides of the wall, shows her initiation into a specifically Anglican whiteness, and the violence inflicted on the other: Catholic, Irish-Polish June Ryan. As I have argued in relation to Butler and Massey, the discourse of multiculturalism in *Memoirs* and *Shikasta* is not constituted by the unproblematic co-habitation of different communities, but depends upon what Jan Pieterse might call 'the fetishism of boundaries that has marked so much of history' (221). Pieterse's

statement offers a two-fold critique of ‘failed multiculturalism’ discourses: firstly, we can understand the demarcation of ‘community’ as being intrinsic to a historical process of marking out space through perceived categories of identification. Boundaries mapped through culture are given a kind of essential reality.

### **Genetic Usefulness: Eugenic Imperialism in *Shikasta***

While *Memoirs* looks at the reconstitution of whiteness at a moment of socio-economic collapse, in the context of a transition from a disciplinary to control society, *Shikasta* is more specifically a critique of the eugenic undertones of the post-colonial narrative of liberal multiculturalism in the former imperial centre; namely, ‘genetic usefulness’. Lessing pre-empted later texts on genetic selection as a new mode of eugenics. To develop Deleuze’s argument in the context of genetics, genetic usefulness depends on a data imaginary, rather than a statistical one. It disaggregates individuals into collections of genetic material, whose ‘usefulness’ can be determined by the conventions of the society in question, and which facilitates fast-track eugenic intervention on the part of imperial rulers. Whereas *Memoirs* occurs on the edge of annihilation and from the perspective of imperial subjects, *Shikasta* is framed as a retrospective compilation of documents written by colonial agents on the subject of Canopean imperialism. Eugenic measures in *Shikasta* are not (solely) related to the promotion of a mythic racial purity – the reconstitution of whiteness – but rather to the idea of determining ‘genetic usefulness’ in peripheral territories in order to sustain and augment satellite proxy governments. This is comparable to strategies of post-war global governance led by former imperial powers through international bodies such as the International Monetary Fund (IMF) and the World Bank, which I explore in Chapter Four in my reading of *The Making of the Representative for Planet 8* (1982). Rather than a national project in which the imperial centre must be governed by white bodies, *Shikasta* depicts the remote biopolitical governance of subject populations under the guise of genetic



usefulness, enhancing and promoting the 'best' genetic stock in a given locality. This frames the various kinds of eugenic plots throughout the series. Imperial eugenic intervention is a tool for ensuring the perpetuation of racial hierarchy at the imperial centre, by arranging and ensuring the reproduction of 'good' local stock in peripheral territories.

In *Shikasta*, a macro-narrative composed of various accounts of colonial history, taking place in the time-scale of millennia and across an interplanetary imperial topography, Lessing stages a social history of eugenic imperialism through the Canopean colonial agent Johor's civilising missions on Rohanda/Shikasta, a planet of great importance for Canopus. The Canopeans are described as golden-skinned, a race of superhumans with powers of immortality. Rohanda/Shikasta is a version of Earth, with places names such as 'Britain', 'China', 'India' and 'Zimbabwe' used by the Rohandan/Shikastan inhabitants. Johor is responsible for forced breeding experiments and importing a false history into tribes, for the sake of cultivating them to Canopean criteria of progress. As George Sherban, he goes on missions to rescue 'genetically useful' people (S 357), and refuses to continue a relationship with an Indian activist, Sharma Patel, choosing the white Suzannah with whom to have children. As Hanson has pointed out, Johor's defence of eugenic marriages in his letter telling Sharma he cannot be with her, despite his love for her, 'is not just rhetoric' (89), but an ideology embedded into his relations with others.

As Hanson argues, Johor's narrative 'endorse[s] the philosophy of an empire grounded in eugenic ambitions' (87). Indeed, 'in Johor's ideal scenario, individuals see themselves primarily as representatives of their race' (Hanson 88), conceived in terms of gene-clusters and restricted to reproducing in order to produce the best possible versions of each race according to the selection of useful genes in a given racialised population. Johor's efforts are paradigmatic of imperial missions in colonised territories, where moral and biological values of the core are incubated among subject populations. His missions are comparable to anthropological 'race studies' in the colonies during the nineteenth century which became, in effect, a smokescreen for justifying the dominion of European governments. The sovereign power of Canopus over their populations is

reproduced by the typological structures they put in place to distinguish between different types of living beings, and, more fundamentally, the distinction between the 'natural' and 'man-made' worlds. The moment of crisis – 'the Failure of the Lock' – sees these distinctions overturned.

British utopian socialist scientists, with whom Lessing had a connection through the Communist Party in the 1950s, may have provided a prototype for the contradictions of Johor's benevolent colonialism. Hanson argues,

Lessing's move to space fiction is only intelligible if her space fiction is understood as part of a British tradition of scientifically informed, speculative fiction, which begins with H. G. Wells and goes on to include Haldane's *Daedalus* (1924), Olaf Stapledon's *Last and First Men* (1930), Aldous Huxley's *Brave New World* (1932) and Naomi Mitchison's *Memoirs of a Spacewoman* (1962). (*Eugenics* 83-4)

Lessing takes up this tradition by restaging and problematising some of its key figures, particularly the transhumanist ambitions of the interwar utopian socialists – what Kevles calls the 'reform' eugenicists. In *Shikasta*, Canopean eugenics echo the interwar eugenicists' transhumanist socialism: the idea of improving society for all, for the sake of eventually breeding in 'good' genetic stock and creating perfect specimens of the human, under the guise of utopian socialism. This would maintain racial categories but in a more complex account of genetic inheritance, where 'mixing' would be permitted, only so long as it did not threaten the ideal prototype of man (in Haldane's view, himself).

The 'reformist' eugenicists make their way into Lessing's space fiction as Canopean agents, particularly Johor and Klorathy. Kevles dates the 'reform' period of eugenic thought to the interwar years (1919-38), and associates it with biologists such as Lancelot Hogben, Julian Huxley and Haldane. Mazumdar describes the interwar eugenicists as 'Marxist scientists, [...] left-wing, radical and sharply sensitised to the part played by class in the eugenic problematic' (194). Haldane and Huxley visited the Soviet Union in the late 1920s, on separate trips, and both considered themselves socialists. Haldane later became a member of

the Communist Party. They considered the mainliners sellers of 'false biology', a stance which grew increasingly strident with news of Nazi uses of Mendelism to justify racist, ableist, and homophobic eugenic policy, and eventually, exterminations. For the mainliners, the new science of heredity gave ground for the biologisation of national poverty. According to this group, altering the environmental conditions for certain sections of the population – adequate housing, better education, free healthcare – would not save them from the defective material they carried in their germ cells. This group was committed to the idea of human improvement, but its proponents were also working alongside the introduction of national welfare programmes during World War I: pension schemes, public healthcare and education reform.

Like the Canopean agents, the interwar eugenicists, inheritors of the Fabian legacy (Wells provided funding for Haldane's reinstitution of the British Eugenics Society), were committed to social improvement through biological intervention, while not unanimous in their political reasons for criticising mainline eugenics. The reformists also continued to display explicitly eugenic aims to improve 'racial qualities' (biological traits), upholding a mythological whiteness as the basis for any programme of social improvement. Geneticist Ronald A. Fisher opposed the mainliners on the grounds of their explicit racism, rather than their class politics, but class-based determinations of genetic goods work to differentiate social groups through eugenic racialisation. Thus, Fisher's anti-racism is less significant if we consider the way in which he subscribed to the biologisation of class. As Stephen Jay Gould observes, while Fisher's *The Genetical Theory of Natural Selection* (1930) 'has generally been acknowledged, and properly so, as the keystone of twentieth century evolutionary theory,' few biologists attend to the final five chapters, 'nearly 40 percent of the entire volume, [which] present a single coherent (if fatally flawed) argument in eugenics – a claim that modern industrial society (particularly the British version) has entered a phenomenally fatal decline as a result of "social promotion of the relatively infertile"' (*The Structure of Evolutionary Theory* 512). Social mobility would promote social degeneration, and the 'superior upper stratum will therefore be swamped by greater reproduction of less worthy social classes'

(cited in Gould 512). Alongside Haldane and Sewall Wright, Fisher was one of the three biologists who devised the Modern Synthesis between Darwinism and Mendelism. Rather than upholding the 'discreet silence' around these chapters, Gould finds a 'consonance of Fisher's eugenical argument with his commitment to a general and statistical Darwinism' (513). For Fisher, Gould writes, 'Darwinian triumph must be measured as differential reproductive success, statistically defined in large populations' (513).

In *Shikasta*, it is genetic contamination rather than racialised protectionism that drives Canopean eugenics. For Johor, genetic contamination arising from unplanned reproduction is a sign of social degeneration. As the ecological crisis on Rohanda/Shikasta breaks up social organisation, the former sites of Shikasta's great cities are claimed by 'the waters from the melting ice', becoming 'green again, fertile' (S 136-37). In this claim of the humanised world by natural forces kept at bay, Johor mourns the loss of careful breeding strategies:

The children are heartbreaking now. In those times, the children of the Giants, the Natives' children, were each one born after such deliberation, such thought, each one chosen and from parents known to be the best... each one with such a long life, time to grow, time to play, time to think, time to ripen their inner selves and grow fully of themselves. Now these delightful infants are born haphazardly of any mating, any parents, treated well or ill as chance dictates, dying as easily as they are born – and yet each child, every one, has all the potentiality, has it still, and completely, to leap from his low half-animal state to true humanity. (S 137)

For Johor, the ecological crisis is bound up with the biological degeneration of humanity due to a lack of care taken around reproduction. Without such care, the inhabitants of Shikasta are half-animals whose development has been stunted or prevented by uninformed reproductive choices. For Johor, there is an ideal of 'true humanity' which might be realized through selective breeding and careful choices. He expresses distaste for reproduction through 'chance', and

disgust with the 'low half-animal state' of the children. This registers through physical repulsion: he does not want to 'handle' them out of distress for what he perceives as spoiled possibilities for evolutionary progress (S 137).

Absent from Johor's description of these new children, born through chance and more mortal (to him) than their carefully-bred predecessors, is any description of type. Transformation from a 'low half-animal state' to 'true humanity' marks the typologising of various degrees of 'humanisation'. Without this transformation (or the iteration of it), progress cannot be marked. Rather, the anxiety around uncultivated, haphazard reproductive norms is tied to a general weakening of social ties between parents and children. Parents have no obligation to take responsibility for their offspring, who are 'treated well or ill as chance dictates, dying as easily as they are born' (S 137). New urban sites are 'an agglomeration [...] without any skills or symmetry or mastery, or even an inkling of the knowledge of how such places are built' (S 138). Informal urban development is paired with an economy based on unequal wealth distribution – 'There are the rich, but only a few' – which leads to a fixation on appearance, women needing to be 'slaves to their beauty' in order to fulfil a social function, and children treated only as the possibility for advancing the 'names [and] properties' of their fathers (138). Post-crisis, according to Johor, chance and self-interest have become the mechanisms of social organisation, rather than socially-determined (top-down) progress.

Johor's description ventriloquises the figure of a colonial emissary surveying a site of former rule. His observation of Shikasta's degeneration extends from his sense of Canopus's civilising accomplishments, and marks a necessary amnesia about the purpose and terms of these civilizing missions. Canopus's activities on Rohanda/Shikasta have always been bound to maintaining and augmenting their own imperial power, necessitating violations of their principle rule: never make a slave or servant of another. In response to the crisis, Johor and fellow agent Jussel travel to herdsmen on the plains:

We told them to maintain certain practices, which had to be done exactly, and changed as necessity required, keeping alive among

themselves, their tribe and their descendants the knowledge that these practices would be required by the Lords, the Gods, then they would be saved from the degeneration of the cities (which they abhor and fear) and their children would be strong and healthy, and not become thieves and liars and murderers. This strength, this sanity, a bond with the sources of the knowledge of the Gods, would be maintained in them as long as they were prepared to do our wishes. (S 139)

In the interests of the people, who are assumed not to know any better or be capable of development on their own, Johor and Jussel promote their own despotism through a quasi-religious set of pre-determined codes, which will be passed through the gene lines of these endogamous communities as a way of preserving the Canopean doctrine. In these spaces, away from the degeneration of the cities, the teachings of Canopean imperialism can be propagated as the word of the deities; the only hope for 'strength and sanity' depends on the submission of these people to the wishes of their Gods. A 'safe and wise existence' on Shikasta involves, above all, 'a quiet attention to what is most needed from them, obedience' (S 139). Counter to the purported first law of Canopus, the herdsmen are to be kept in subservience to their imperial leaders by way of religious obeisance.

Johor's disgust for the degeneration of the cities and the unplanned reproductive practices on Shikasta is not based on a concern about welfare, but about hygiene. His inability to touch the children borne out of haphazard sexual congress appears as mysophobia, reflected in his dirge for the orderliness of urban planning. The invention of Canopus as ordering force against the chaos of their colonised populations is, to recall Anne McClintock's argument in *Imperial Leather* (1995), part of 'the inventedness of historical hierarchies' (8). While preserving the epistemological distinction between order-chaos/colonizer-colonised, an obsessive-compulsive neurosis emerges as symptom of the psychological imbalance of an imperial power that has long translated its pursuit of economic supremacy via the appropriation of territories

as a civilizing mission. Johor's response to the dilution of Canopean influence is to stage its propagation in what Jean-Jacques Rousseau and Claude Lévi-Strauss might understand as a 'pure' or untouched site of tribal peasantry, enforcing the sedimentation of Canopean instruction in a kind of primitive wonderland. As Jacques Derrida points out in his reading of Lévi-Strauss's *Tristes Tropiques* (1955), the assumption of an original, pure site indicates a reverse ethnocentrism, which continues to centre European man as 'true humanity', with 'non-European peoples [...] studied as the index to a hidden good Nature' (*Of Grammatology* 115).

The typological project of selection and ordering generates an obsessive anxiety in its perpetrators that cannot be resolved. Instead, it is distributed to the Shikastans through the promise of improvement, and the threat of degeneration. In order to ensure that the tribe follow out their instructions, Johor and Jussel invent a lineage of deific inheritance to transmit to the 'most respected of the tribe': 'We told the most respected of the tribe, a male already old [...] that in his veins ran the 'blood of the Gods', and his progeny would always remain close to the Gods, if they kept up the right ways' (S 140). In doing so, the Canopeans distribute the double anxiety of inheritance and obedience: in order to guarantee the safety of the tribe, this lineage must be protected and maintained, alongside the transmission of knowledge and practices bestowed by the 'Gods'. Johor and Jussel control the tribe with a genealogical imperative in which the responsibility of biological inheritance and cultural transmission are carried by a central family line, inventing a historical hierarchy that can perpetuate the invention of Canopean civilisation. The fact that this is a self-conscious invention which still follows specifically eugenic governing techniques marks a break from the Galton-esque anxiety around racial purity depicted in *Memoirs*: Johor and Jussel deploy the mythology of genealogy to ensure that they will be able to track and manage the tribe, and to ensure the continuous perpetuation of a Canopean code of living, 'without limit' (Deleuze 6). The anxiety about whiteness has been superseded by an anxiety around genetic usefulness, and the supremacy of (Canopean) whiteness is now implicit, the grounding assumption of its agents, rather than an overt or explicit project.

## Haldane, Huxley and Transhuman Supermen

In this section, I outline a historical context for reading the Canopeans as utopian socialists, through the transhumanist ambitions of the interwar eugenicists – the group that Kevles calls ‘the reformists’, particularly Haldane and Julian Huxley. Marx and Engels describe a critical utopian socialism – characterised by Charles Fourier, Henri Saint-Simon, and Robert Owen – which does not recognise ‘any historical initiative or independent political movement’ of the proletariat; instead, the utopian socialists ‘wish to attain their ends by peaceful means, and endeavour, *by small experiments, necessarily doomed to failure*, and by the force of example, to pave the way for the new social Gospel’ (498; italics mine). I connect this description to the interwar eugenicists, whose interest in (and, in Haldane’s case, political commitment to) Marxism was compromised by a vision of themselves as the prototype for a transhumanist future (both biologically and intellectually, as I explore), and their belief in eugenics as a way of achieving this. The reformists believed in the possibility of humanity transcending current limitations, and were eager to create a race of ‘supermen’ defined on the basis of intellectual capacity. This context of utopian socialism is the basis of my reading of the Canopean interplanetary imperial vision throughout the *Canopus* series, drawing Marx and Engels’s suggestive postulation that utopian socialists, in the name of peaceful progress, carry out their vision through ‘small experiments [...] doomed to failure’ into my reading of Canopean (and Sirian) eugenic practices.

The idea of being able to identify and isolate genetic material that codes for particular traits – intelligence, fitness, and so on – underlines the biological assumptions of the interwar eugenicists. Haldane is explicit about his interest in breeding supermen, expressing the need in biology for ‘men with a knowledge not only of the biological sciences, but of mathematics, physics, chemistry and sociology,’ arguing that ‘without such supermen, biology will break up into a group of isolated sciences divorced from one another, and from human life’ (‘Possibilities of Evolution’ 85). Haldane is speaking here not only of education,



but also of augmenting innate intellectual capacity. Biology needs more men like him, and being 'like' Haldane equates to carrying an innate (genetic) intellectual capacity, just as he had inherited the intelligence of his father, the physiologist John Haldane. This inheritance enabled him, in turn, to carry on his father's legacy in mathematics. Haldane concedes that while 'many of the "unfit" are unfit for society as it is today', it is 'often society's fault', and that 'the attempt to prevent them from breeding really involves the appalling assumption that society as at present constituted is perfect, that our only task is to fit man to it' (88). He claims that this is the reason why 'eugenicists are generally conservative in their political opinions' (88). If the above comments seem to contradict his complaint about 'stupider sections of society' breeding faster than the more intelligent, this is only at first reading. The underlying categories or 'types' of human as 'stupider', 'unfit', 'intelligent' and 'supermen' remain, despite his small concessions to the failures of social infrastructure. The so-called reformists were certainly more cautious than their mainliner antecedents in their vision for biological intervention in human evolution, but the ideology of racial improvement and the idea of slowly eliminating the genetic stock of the 'unfit' for the sake of social improvement were upheld.

Haldane writes that the 'demand for talent' in interwar Britain – partly a crisis of millions of men dying during World War I – 'will probably not be met [in the next generation], for at present the stupider sections of society are breeding faster than the more intelligent in most civilized countries' ('Possibilities of Evolution' 85), reiterating neo-Malthusian concern for overbreeding of 'stupider sections of society', even while not explicitly identifying where these 'stupider sections' might be found. He makes clear his stance on the possibility for eugenics, calling it a 'hopeful sign' for this trend: '[T]he eugenic movement [...] leads intelligent and healthy adherents to produce large families' (85-6). This is crucial to situating Haldane's own class-race preferences: eugenicists were all white, and most of them from wealthy if not aristocratic families. Haldane was part of a long line of titled intellectuals and academics, and his biographer notes that it was his greatest wish to populate England with little Haldanes; to his grief, he was unable to have children. Like

Fisher, he was also keen on birth control as a way of preventing the reproductive spread of these 'stupider sections of society' (86), although for him stupidity was not necessarily causally related to class.

Julian Huxley's affiliation with the reformists shows how close the group were to Galton and Malthus, both in terms of scientific racism and with regard to the need for population control. Huxley believed that eugenics would prove that "Negroes" were intellectually inferior [to white Europeans]' (cited in deJong Lambert 16). In the second volume of his autobiography, *Memories* (1973), Huxley writes that he has reached to the same conclusions as Malthus on population growth, and he published several articles on the necessity of birth-control measures on these grounds. In an astonishingly callous footnote on Indira and Sanjay Gandhi's coerced sterilisation programme in India, he writes: 'I have just read that Indians who are vasectomised are given portable transistor radios, so that any decrease in Indian numbers will be accompanied by an increase in Indian noise' (*Memories* 151). On the subject of eugenics, Julian was at odds with his brother Aldous about the utopian possibilities afforded by it. *Brave New World* (1932) is an early fictional polemic against eugenics, and, according to Haldane's biographer Ronald Clark, was the subject of intense debate on skiing holidays in Switzerland (Clark 43). That the reformists debated eugenics primarily within a small, closed group of wealthy white British men, working in elite institutions of British higher education and holidaying in Switzerland is relevant to considering both the narrowness of this group's perspective, and the privileged position they were to disseminate these ideas to a wide audience.

Lessing's second autobiography reveals her particular interest in Haldane as a compelling and deeply contradictory character in her social circle. In *Walking in the Shade* (1998), Lessing recalls reading Haldane's articles on science in *The Daily Worker*: 'I knew people who bought the paper for these articles and read not a word of the rest,' she writes (104). In her preface to *The Sirian Experiments*, she cites a sentence from Haldane's 1927 essay, 'Possible Worlds': 'Now, my suspicion is that the universe is not only queerer than we suppose, but queerer than we can suppose' (SE 9). She writes that Haldane 'thrilled us all' with

this idea (*Walking in the Shade* 104). She takes Haldane's speculation on the inconceivable queerness of the universe as an opportunity to 'make things up,' rather than to add to 'a confusion of embattled certainties' (SE 10). Haldane's words appeal to her because they contest such certainties, giving space for writers to imagine how queer the universe might be, through fiction. His words create a space for a queered existence (not described as such) by distancing perception from knowledge and releasing the imagination into the unknowable vacuum of outer space, a theme that I explore in more detail in *The Marriages Between Zones Three Four and Five*. Lessing's engagement with this is imaginative: she is 'thrilled' by the scope afforded to the imagination, and to fiction, by vast gaps in human knowledge, or even the impossibility of conceiving where such gaps might be.

In my readings of *Marriages* and *The Sentimental Agents of the Volyen Empire* (Chapters Two and Five), I argue that the eugenic responsibilities of Al Ith, queen of Zone Three, and Klorathy, agent of Canopus, are suspended in favour of exploring what I call a queer sociality, defined in the broadest sense as interactions that are not somehow bound to the improvement, reproduction or maintenance of the status quo. Drawing this autobiographical text of Lessing on Haldane into my reading of her space fiction, this suspension of the eugenic imperative for the sake of the queer and speculative exploration is also critical to her perception of Haldane as a highly conflicted figure. For Lessing, Haldane's compelling ruminations on the radical uncertainty of life itself were countered by 'embattled certainties' in his political life. She hints at his didactic tendencies during Communist Party meetings in the 1950s. Describing Haldane in the context of these meetings, she writes,

People like these were originals and, like all their kind, shared the characteristic that when they talked about the Soviet Union, every word was rubbish [...] No one could say that the guests were a boring lot, but I found the atmosphere oppressive. I hated the smugness that went with being in that position - we, the clever minority, supporting the defender of the world's working class. (*Walking in*

The breadth of vision and originality that Haldane invoked in his popular writing on science did not tally with his appearances as a public defender of the Soviet Union. Lessing's description suggests her discomfort with taking such a position of authority, as part of a 'clever minority.' Her 1985 novel, *The Good Terrorist*, describes a similar combination of 'smugness' and oppression in a network of Marxist activist groups, which, while lofty in principles, rot from the inside with the imprisonment of ideas into ideology and dogma. In the quotation above, as well as in her later writing, Lessing shows little patience for uncritical defenders of the Soviet Union, and she left the Communist Party in 1956 after the Soviet intervention in the Hungarian Revolution.

Haldane's vision was tied into particular networks of power, notably the British Communist Party and the Soviet Union.<sup>5</sup> Rather than dismissing this side of Haldane, and her concern with the implication of sovereign violence, Lessing incorporates her impatience with his political didacticism and implicit, perhaps unrealized privilege into her depiction of her Canopean rulers, whose (described) brilliance is countered by their imperialist agenda. While Haldane's science writing opens a space of speculation about possible futures, his political persona represented a mode of campaigning which would lead these futures into worlds of his own design. Haldane's commitment to the possibility of perfection, and the necessary limitation of other biological possibilities, represents an aporia in any kind of large-scale social 'improvement': what is being left out or obliterated, while something is made better? Haldane's eugenic vision of human perfectibility, Lessing's fascination with his science and her discomfort with his politics stage a conflicted dialogue between policy and science, which I explore further in Chapter Two in a discussion of Soviet biology and *The Sirian Experiments*.

---

<sup>5</sup> In his preface to Ronald Clark's biography of Haldane, Peter Medawar writes, 'People who are tired of reading how lofty thoughts can go with silly opinions, or of how a man may fight for freedom yet sometimes condone the work of its enemies, have a simple remedy: they need read no further. But they will miss a great deal if they don't.' in: Ronald Clark, *J. B. S.: The Life and Work of J. B. S. Haldane* (London: Hodder and Stoughton, 1969).

Haldane's politics were grounded in his vision for the improvement of society. He believed that the Modern Synthesis could contribute to this vision, by supplying eugenics with the genetic knowledge to create biotechnologies. In 1925, he delivered a talk called, 'Daedalus, or, Science and the Future,' in which he predicted the artificial production of human embryos, a process which he called 'ectogenesis.' In Haldane's imagined future, 'ectogenesis is now universal, and in this country less than 30 per cent of children are now born of woman' ('Daedalus' 42). In this future world, the men and women selected as donors for the next generation are 'undoubtedly superior to the average'; this proliferation of 'superior' stock has prevented the collapse of civilization, which would have been brought about by 'the greater fertility of the less desirable members of the population in almost all countries' (Haldane 45). Science historian Mark B. Adams argues that Haldane and his generation of scientists 'had grown up with the triumphs and promise of a new 'experimental' biology predicated on manipulating organic nature to suit human ends' (473). The manipulation of nature for human ends held, for Haldane, emancipatory potential for saving mankind from an otherwise inevitable decline.

A notable rejoinder to Haldane's notion of 'ectogenesis' is *Brave New World*, in which ectogenesis ensures total state control over the production of human life. As Phillip Ball notes, while Huxley's novel was written at a time when 'science and technology were widely seen as holding utopian promise', '*Brave New World* can be read as a turning of the tide in terms of perceptions of what science would bring: from optimism to foreboding' (Ball 338-39). While Haldane's predictions seemed fantastical in 1924 (and even in 1932), several critics have observed that many have since come into existence. Lessing takes up the younger Huxley's foreboding, and *Canopus* can be read within this scientific pessimism – or at least deep skepticism about the assumption that producing 'supermen' will lead to utopias.

Haldane develops his eugenic vision in another essay, 'The Last Judgment' (1927), which portrays the control of human evolution to create a race fit to inhabit another planet, after humans have achieved total control over genetic inheritance, far into the future. 'The Last Judgment' was a direct influence on

Olaf Stapledon's novel *Last and First Men* (1930). Lessing, in turn, cites *Last and First Men* in her preface to *Shikasta*. Stapledon's novel describes the gradual perfection of man to ideal forms, 'new and glorious human species,' the evolution of men to super-men, over thousands of years. Perhaps through Stapledon, parallels between 'The Last Judgment,' *Shikasta* and *The Sirian Experiments* are numerous. Haldane writes about the future mastery of the planet and its resources, the control of human evolution, the destruction of Earth, the subsequent migration to Venus, the engineering of humans to suit the conditions of Venus, the emergence of a collective mind, and ends with the pending colonization of Jupiter. As in his essays 'Possible Worlds' and 'Daedalus,' Haldane's imaginative vision of the universe and the potential of human experience within it provided inspiration for Stapledon, Aldous Huxley and Lessing, whether their writing criticised (as in *Brave New World*) or developed it (as in *Last and First Men*).

Yet whereas Haldane and Stapledon wrote about the possibilities for controlling human biology, Lessing's novels place the biological engineering of humans on the same platform as pedagogy, in a topological demonstration of colonial power. Her discomfort with Haldane's didacticism should be borne in mind: it prevents the argument that pedagogy is the 'good' to the 'bad' of eugenics. Pedagogic and eugenic practices involve the notion of improvement, and beyond this, population control. Enfolded within them are conditions of social typology and hierarchical division, and the spectre of utilitarianism. Lessing's version of transhumanism – as biotechnological interference in human life – is not presented as a 'good' for mankind. Lessing's distrust for Haldane and the 'clever minority' helps us situate her imaginary rulers in a landscape of inevitable failure: the improvement of society is a lost cause if it is directed only towards the perpetuation of a certain ideal of existence, as espoused by the utopian socialists.

### **Whiteness on Trial in *Shikasta***

The last section of *Shikasta* stages the supersession of an explicit project of racial hierarchy (as in *Memoirs*) with genetic usefulness (as in *Shikasta*) through a Mock Trial of the 'White Races' by the 'Dark-skinned Races', which takes place in a Greek amphitheatre (S 374). The location makes clear that it is not just post-Renaissance imperial capitalism on trial, but the very foundations of Western civilisation that should be called to account for the violence of racial typology. The Trial is narrated by Chinese secret agents spying on Johor/George, depicted as the new global empire on Rohanda/Shikasta. Comrade Chen Liu sends intelligence reports to the central administration in Peking about 'George Sherban' (Johor), the structure of reporting mimicking Johor's reports to Canopus. This comes after Rachel Sherban's diary entries, written to and for herself, in italic typography, a micro-narrative embedded within the vast mechanisms of global and interglobal competition. In this trial, which the Chen Liu interprets as a sign of the West's deterioration and diminishing power, 'John Brent-Oxford' – the Canopean agent Jussel in human form – will defend the White Races against the prosecution of the Dark-skinned Races, represented by 'George Sherban', the Canopean agent Johor. The irony of describing this as a 'Mock Trial' is drawn on several levels: first, the difficulty of prosecuting an imperial ideology sustaining biopolitical governance in both core and peripheral territories; and second, that the trial simply pits one era of Canopean policy against a new one. It is a trial of Canopean sovereignty, an autoimmune gesture of eradicating, cutting or editing a violent colonial inheritance of racial hierarchy for the sake of a new order that promotes 'genetic usefulness', undertaken by 'George Sherban'.

The trial is rigged, a performance for the sake of stating a break with the past, while not changing the underlying preconditions. John Brent-Oxford is described as 'the white villain', a member of 'the old British left', brought to trial 'to defend an impossible case' (S 385). It is not, then, a history of Nazi eugenics that Lessing invokes as the greatest crime of modernity, but an imperialist system that enforces a global standard of racial purity, in which the Shoah takes its place among a multitude of crimes within an ideology of 'white' genetic superiority, and the reduction of difference to phenotypic and cultural markers.

The wider narrative here is the inescapability of Canopean sovereignty, which reflects its own power and influence back and forth across both sides of the trial. In the context of the Canopean Empire, the trial does not represent a break or even reconciliation with past horrors, but merely the end of one stage of imperialism and its replacement with another: the replacement of 'racial hierarchy' with 'genetic usefulness', or what Deleuze understands as the transition from a disciplinary society to a control society; as I showed in my reading of *Memoirs*, this transition does not obliterate the past, but merely changes the technological character of sovereign power. John Brent-Oxford stands alone, representing 'the old British left', accounting for the crimes committed by core nations under the justification of racial hierarchy, while the hybrid leader of the prosecution, George Sherban (Johor) stands for a multicultural, post-colonial democratic order, surrounded by supporters. Chen Liu reports,

He has the ivory skin of a certain type of racial cross, but he is black-haired and black-eyed and could easily be an Indian or an Arab. But *visually*, white-skinned. With him, a changing group of every possible skin colour. (S 382)

Important here is the fact that despite his apparent 'mixedness', George Sherban is still recognizably and familiarly 'white-skinned'. The reference to 'ivory' has a doubled connotation – as white pigment, as valuable commodity, and the slave trade; when traders could not get real ivory, they took cargoes of 'black ivory', that is, of slaves. George's 'ivory skin' then situates his body in a colonial history of commodity exchange and slavery. His black hair and black eyes represent the phenotypic mixedness produced through interracial relations – another violent history, while his skin sustains the continuation of whiteness as governing ideal. This description shows the peculiar malleability of whiteness as a signifier of privilege, the criteria of which depend on the interests of a given climate or context.

In the transition from what can be read as a nation-bound regulatory



system to a globalism based on deregulated transnational finance capital in the late 1970s and early 1980s in the Reagan-Thatcher era, George's genetic mixedness – comprised of the 'best' stock of a number of differentiated phenotypes – represents the porousness and fluidity of a new economic system. The 'Mock Trial' is not called such because the defence John Brent-Oxford has been set up to mount is an impossible one, but because it does not identify a criminal, rather a governing force that continues to perpetuate itself, albeit in a slightly different dynamic. It is a self-effacing manouvre, putting Canopus on trial with its own past, for the sake of transforming a previous world-system into a global liberal multiculturalism, in which the 'best' of each locality is selected for breeding. This constitutes the biopolitical imperative to produce a hybrid child in *Marriages*, which I explore in Chapter Three.

The case of Zimbabwe makes an appearance in the trial, although the post-colonial nation would not be formally established until two years after the publication of *Shikasta*. The conquest and colonization of Zimbabwe is used as an example of the way in which the whites 'saw their rule as educational and benevolent' (S 403), and enables the process of national forgetting during the Rhodesian Bush War that allowed Britain to escape taking any legal or moral responsibility for the situation. A young Zimbabwean soldier explains that this was possible because 'the British people and their government always had a blind spot for us, we blacks did not count', remarking on the uneven accounting of deaths – the death of one white carrying a meaning that the deaths of fifty blacks did not: 'we were always nonpeople to them' (405). Drawing in fictional witnesses for Zimbabwe's war of independence, Lessing sketches a racialised division of what, in *Frames of War* (2009), Judith Butler calls 'grievable life': the one white is mourned where the fifty blacks are not. This is not a simple case of individual empathy or lack of such, but a structural incapacity to recognize these lives as grievable.

Butler argues that if 'the "being" of life is itself constituted through selective means' (in the case of Zimbabwe's colonial history, 'white' is a placeholder for 'life', where black is not) then 'we cannot refer to this "being" outside the operations of power' (1). Thinking through ontology in this sense as

‘the “being” of the body [as] one that is always given over to others, to norms, to social and political organizations that have developed historically in order to maximize precariousness for some and minimize precariousness for others’, Butler outlines a ‘differential allocation of precarity’ that either makes possible or denies ‘the body’s persisting and flourishing’ (2-3). In the case of the black Africans in Southern Rhodesia, the lack of grief around their deaths signals a breakdown or failure in ‘the epistemological capacity to apprehend a life’ (Butler 3). This is what Butler means by ‘frames’: ways of ‘differentiat[ing] the lives we can apprehend from those we cannot’ (3). Within a phylogenetic system of racial hierarchy centred on whiteness, the apprehension of grievable life derives its determinations from the pseudo realm of human classification.

While whiteness takes centre stage at the Trial, the organisation of the camp housing the delegates slowly begins to unravel. There is no end to the supply of witnesses against the white man, but the atmosphere surrounding the Trial exceeds its topic:

The prevailing mood was one of restlessness, dissatisfaction, a continual *movement* around the camp, from tent to improvised shelter, to mess tents, where debates and ‘seminars’ seemed continuously in progress, and from the camp to the shores [...] All this did not mean that the sessions were not fully attended. The amphitheatre was crammed, attentive, centred on the events in the arena, from four until eight, and from five until midnight. But now they were less silent, intervened often in the ‘indictments’, adding comments and facts and figures. There was total participation between the audience and – I was going to say – actors. (S 409)

The activity of the camp is analogous to a media storm, the dissemination and circulation of speech and discussion made possible by the Trial. The ‘restlessness’ and ‘continual *movement*’ of the camp suggests it as a space of negotiation and flux, enabling ‘total participation’; the energy derived from the symbolic trial of whiteness puts things in motion. Hence, the ‘mistake’ of calling

the defendants/prosecutors 'actors' is an intended one; the performance of the Trial makes possible a renegotiation of social conditions. John Brent-Oxford's defense is largely irrelevant; his role is to perform whiteness, without speaking, and the act of listening. The perpetual movement marks an epistemological shift in the categories of grievable life, wherein whiteness comes to stand for territorial competition. Again, this is the modulation of the control society taking the place of discipline and order. This is comparable to the transition set up in *Memoirs* between Professor White's undeclared custodianship of the block of flats, and Gerald (and Emily's) new authority over the anarchic children in a space from which they have attempted to strip the memory of an imperial past.

In *Memoirs*, the utopian socialist Gerald replaces the pre-crisis 'Professor White', while the underlying reproduction of white leadership remains in place. In *Shikasta*, the (Canopean) Brent-Oxford is replaced with the (Canopean) George Sherban. The purpose of the Trial is not to indict John Brent-Oxford, but to establish George as a new leader, and with him, a new social regime of control. Chen Liu reports, 'The "Trial" succeeded in elevating him to a position of undisputed leader and spokesman, even though he spoke, during the "Trial" itself, perhaps not more than a score of sentences' (418). George leaves the novel overseeing the construction of new cities, en route with a delegation to Europe, the former centre. This route traces a desire for the eternal return to an imaginary origin, despite the performance of putting this origin on trial. The opening of the world made possible by the Trial leads to large-scale urbanisation of formerly peripheral territories, a globalised control society functioning under the guise of an implicitly Euro-US liberal multiculturalism, an argument to which I return in my reading of *The Sentimental Agents of the Volyen Empire*.

## Conclusion

In this chapter I have read *Memoirs of a Survivor* and *Shikasta* as narratives that present the problem of whiteness and its continual reconstitution. Through her depiction of imperial scientific typology, its constitution and reproduction at moments of crisis, Lessing traces a continuous line from Enlightenment

conceptions of man, public participation and property embedded within biological discourse. The repeated iteration of a liberal individualism premised on the freedom of whiteness, and the subjugation of its other, defines the national project of Britishness and grounds it in a mythology of imperial origin. Maintaining a distinction between 'reform' and 'mainline' eugenics is more accurately understood – in the context of these novels – as an exercise in trying to forget the deeply violent and elitist implications of the utopian socialists with regard to their decisions over what constitutes 'good' and 'bad' stock, despite their benevolent intentions.

**OPTIMISING THE WORKFORCE:  
BIG SCIENCE AND SOVIET BIOLOGY IN  
*THE SIRIAN EXPERIMENTS***

While *Memoirs of a Survivor* and *Shikasta* depict the deployment of science and scientific racism in British imperial governmental policy, I read *The Sirian Experiments* (1981) as a critique of Soviet biology, situating this history as part of the emergence of Big Science in industrialised nations after World War Two, and competitive national science projects between the US, Western Europe and the Soviet Union. It was not just space exploration and nuclear power that defined Cold War science competitions, but also biological research in human improvement. Like *Brave New World* and *Last and First Men*, Lessing's narratives explore the endgame of biological engineering. Moreover, they show the history of the transnational commitment to research in improving the biological capacities of humans as a competitive undertaking, directed towards the breaching of frontiers for further expansion. Throughout *Canopus in Argos*, changing the biological constitution of subjugate populations in order to improve them is always for the purpose of strengthening imperial power and increasing interplanetary domination.

The key vehicle of this critique is what I call 'epigenetic poiesis', a term I use for literary and/or cultural representations of biological change that exceed mechanistic accounts of material life, in a broader conception of experiential effects on development, and of life as semiosis (I develop epigenetic poiesis out of scholarship on biosemiotics, as I explain later). I use this term to describe an emergence out of the habitual and coded, while also destabilising 'the biological' as a purely material category of observable effects. I suggest using epigenetic poiesis as a description for Lessing's mode of engagement as a designation of a particularly philosophical intervention in the debate around determinism as such. Determinism can be read across biology and philosophy as the assumption

that what comes before necessitates what comes after; in biology, this refers to the idea that development can be reduced to material attributes – in this case, genes – and that genes are the programme for life itself. Epigenetic thinking in the post-genomic era complicates this view, not just in the attention paid to environmental influences, but also in the processes that cause epigenetic changes. I derive an understanding of ‘poiesis’ as an emergence, a chance event, which – in Alexander Düttmann’s words, following Martin Heidegger – ‘estrang[es] use from the usual and the habitual, [and] always displaces us to another place’ (223). Following Samuel Stolton, poiesis ‘does not “create” but it is the renewal and materialistic manifestation of a *presencing*’ (‘Poiesis and the Art of Creation’). It provides a philosophical frame for thinking about epigenetics as it appears in literary and cultural representations, as part of a strand of thought that emphasises the importance of contingency, spontaneity and chance.

Heidegger understands poiesis as a bringing-forth or emergence. Murray Cox and Alice Theilgaard argue that for Heidegger, poiesis is a ‘threshold occasion, a moment of ecstasis when something moves away from its standing as one thing to become another’ (23). Adapting this idea of movement from one state to another (which I return to in my discussion of biosemiotics in Chapter Three), I suggest epigenetic poiesis as a literary device to describe emergent change registered across biological and cultural experience. Through her critique of various kinds of biological determinism throughout the *Canopus* series, Lessing arrives at a version of biological change as making or action extended across various aspects of experience. In *The Sirian Experiments*, this manifests in environmental or social conditioning as a tactic of (inter)global governance. The narrative of the Lombis is part of this critique. Displaced from their home planet to another planet colonised by the Sirian Empire, the Lombis are studied for the sake of an adaptability experiment. At first, they appear to be a peripheral interest to the Sirians and are ostensibly dismissed from the narrative in the first third of the novel. Yet their ‘failure’ to adapt eventually leads to the end of human experimentation in the Sirian Empire, the marginal slave-force that ruptures the centre.

This is a structural correlation, rather than an ontological one. By drawing this frame into her narratives through evolutionary and genetic theory, Lessing uses the metaphor of epigenesis to explore the element of chance and response in biological processes and what gets passed on. The plasticity of biological potential allows for space to consider the effects of accident and supposedly non-functional relations not as anomalies or 'junk', but as potential events of transformation. Epigenetic poesis makes it possible to discuss a theory of living laid out in literary and cultural texts that is not itself restricted to the spheres of the political, social, economic and biological, but in which all of these differentiated realms of experience can be seen as altering and affecting change and inheritance.

Previous criticism on *The Sirian Experiments* has interpreted Ambien II's narrative arc as a development in her understanding and appreciation of Canopean influence as, in Ruth Whittaker's words, 'something that will enable her to fulfil her own potential' (110). I focus here on analogous intersections between Sirian and Soviet policies, particularly with regard to the speculative claims about the possibilities for engineering human life. Lorna M. Peterson notes the dramatic change in Lessing's attitude to the Soviet Union, from her optimism during the 1940s, to her trip with Naomi Mitchison in the early 1950s, to leaving the Communist Party in 1957, and her memoir on her trips to Afghanistan during the 1980s:

No other nation, with the exception of those countries in which she has lived – Persia, Southern Rhodesia, England – has been as prominent in the writings of Doris Lessing as has the Soviet Union. The first home of communism, the leader of the socialist world, the invader of Afghanistan, these are some of the roles the USSR has played in Lessing's life and work. (142)

This change is marked by her gradual pessimism towards the Soviet project. I suggest that it appears in *Canopus in Argos* through her portrayal of the Sirian Empire. Sirian is a competing world-system to Canopus, rather than an inferior

one (as Ambien II's transformation would have us believe). In the period of her space fiction, Lessing's pessimism can be read into some of the abuses that she writes the Sirians inflicting on subjugate populations. By following *The Sirian Experiments* with *The Making of the Representative for Planet 8*, Lessing closes the ideological distance between Canopus and Sirius, representing instead different manifestations of eugenic violence.

With regard to the science competition going on between Sirius and Canopus in the novel, *The Sirian Experiments* is also a speculative interpretation of Big Science in the Soviet Union after World War II, the turn to governmental investments in large-scale scientific research. The methodologies and projected outcomes of these experiments and studies were tied to the respective ideological projects of the Soviet Union and the Euro-US, and here I focus on the biological engineering of populations. Told from the perspective of an agent of a fictionalised version of the Soviet Union, the text stages the Soviet belief in environmental conditioning brought to crisis, mingling agricultural experiments of the 1930s with population studies of the 1970s, framing them within a wider project of Soviet development and expansion, as well as crisis management resulting from bad governmental policies. The agricultural crisis of the late 1920s and the early 1930s – the grain crisis leading to the effective starvation of millions in rural parts of the USSR – and the labour crisis of the 1970s, were two moments when the Soviet government needed to come up with ways of cultivating more resources; in the first example, food, and in the second, labour-power. To do this, Soviet scientists were enlisted to come up with effective solutions, and both moments saw the theory of accelerated adaptation as policy recommendation. The idea was that evolution of certain groups (of plant, of human) might accelerate in extreme climate conditions. *The Sirian Experiments* writes epigenetic poiesis as accelerated transformation not directed towards political ends, but for the sake of collective survival not embedded within governmental restriction or instrumentalisation of populations for governmental gain.

A realist intertext here is Aleksandr Solzhenitsyn's *The Gulag Archipelago* (1973), with the Lombis' displacement from their home to an isolated planet comparable to the displacement of millions within the vast forced labour camp



system functioning like a chain of islands in the Soviet Union under Stalin. *The Sirian Experiments* imagines these camps through the sf trope of medical experiments, similarly to H. G. Wells's *The Island of Doctor Moreau* (1896), where the eponymous scientist conducts brutal grafting experiments to create human-animal hybrids. Like *Doctor Moreau*, *The Sirian Experiments* depicts the zoological boundaries of 'human' and 'animal' as arbitrary categorisations, which serve the purpose of dehumanising possible test subjects, drawing distinctions between imperial and subjugate populations. Ambien II repeatedly refers to the Lombis and other test groups as 'animals', despite their recognisably human features, and the purpose of this becomes clear, both to her and to the reader, through the course of the novel: to alleviate responsibility for atrocities carried out in the name of progress and development.

Yet the example of the Lombis stages a resistance to this oppression not available within Solzhenitsyn's realist text. This can be read as extending the conditions of the Beast Folk rebellion in *Doctor Moreau*, who stop following orders, with the Lombis' biological adaptation also stating a form of refusal. Whereas Wells's Beast-Folk carry out an active revolt against their master, culminating in the deaths of their oppressors, the resistance of the Lombis does not take the form of violence, but of epigenetic adaptations that make them useless for workforce optimisation and expansion under Sirian governance. Demonstrating a collective response to their changed environment across lines of 'social' and 'biological' experiment, they become 'inutile' for the Sirian grand plan, defunct and irrelevant. Importantly, this change happens through the emergence of a non-coded biological inscription which becomes part of what Lessing calls their 'gene memory'. Like the Beast-Folk, the Lombis are eventually left to languish, no longer the subjects of Sirian interests. The violence of their displacement is not undone or reversed; there is no homecoming for them, but their adaptation enables them to subvert any further co-option into Sirian development programmes. This is survival, not progress. They are living a life 'decoupled from the ideological demands' of Sirian expansion, to follow Dale Beran ('4Chan'). This decoupling does not arise from a collective decision, but emerges out of chance. The Lombis' accelerated adaptation to their changed

environment represents an ecstatic moment, a crossing over from one kind of being to another, frustrating, interrupting and destabilising the determinations of their imperial masters.

This version of epigenetic thinking as governmental policy allows a degree of scepticism about considering epigenetic research as a preferred alternative to genetic determinism in public health. While epigenetic adaptation emerges as an alternative, it is not as one empire in opposition to another, but rather as adaptation from below, in response to necessity. Lessing does not present epigenetics as an alternative form of developmental science in the name of governance – in this case, Soviet biology as a counter to Nazi eugenics or scientific utopian socialism in Britain. She uses this form of adaptation to place focus on the governing conditions which produce this extreme biological response. The Sirian desire for accelerated evolution through environmental conditioning for the purpose of optimizing their workforce and expanding their sphere of influence is frustrated; nonetheless, their experiments produce a response in their test subjects, which effectively cuts off the possibility of their being used for Sirian ends.

### **Big Science and the USSR: Context and History**

In this section, I lay out a historical context for my reading of *The Sirian Experiments* as a narrative of Soviet biology, which puts in contrast research on and policies of epigenetic conditioning with manifestations of epigenetic poiesis. On his deathbed in 1964, J. B. S. Haldane spoke with praise for Trofim Lysenko, the Soviet biologist who, under Stalin, oversaw the banning of genetics as a ‘bourgeois science’ and the imprisonment and execution of many Soviet geneticists. Haldane called Lysenko ‘a very fine biologist’ and said that ‘some of his ideas are right’ (in Paul, ‘Haldane and Lysenkoism’ 23). The praise is significant for two reasons: first, because it underlines the cross-pollination of scientific epistemology between the Soviet Union and Anglo-US, and second, because it highlights the troubled legacy of ‘Lysenkoism’ in post-Stalinist

biology. Lysenko was anti-Mendelian and a proponent of the theory of the inheritance of acquired characters in his agricultural experiments. At stake was also the legacy of Darwin: in Anglo-America, Darwin was allied to Mendel and mathematics (through T. H. Morgan in the US, and Haldane, Fisher and Sewall Wright in the UK); in the Soviet Union, Lysenko wanted to foreground the Russian biologist Ivan Vladimirovich Michurin's 'Creative Darwinism'.

In his 1948 Lenin Academy speech (in which he banned genetics), Lysenko dismissed what he saw as Darwin's errors – the Malthusian influence, the struggle of the species and its contribution to natural selection and evolution – and placed 'environment' as 'the sole force that drives organic change and evolution' (Schneider 147). Through Michurin, Lysenko also resurrected a form of Lamarckism in Russian biology, although he denied this was the case; he believed that organisms evolved through the inheritance of acquired characters in response to environmental stimuli. Lysenko's ideas were compelling for socialist utopians who believed – like Haldane and Stapledon – that an ideal Man might be created out of environmental conditioning. While Lysenko's agricultural experiments were failures, his political popularity in Stalin's government during 1940s and 1950s reflected Stalin's broader ideological interest in engineering an ideal Soviet man.

The other history of Soviet medical biology invoked in *The Sirian Experiments* could be the Human Adaptability studies carried out during the 1970s, which were part of the International Biological Program (IBP) initiated by C. H. Waddington, which was implemented between 1964 and 1974. Added to this, the text's focus on architecture, territory and population calls up the production of what Susanne Bauer describes as 'genogenetic' maps by Soviet scientists during the 1970s, through which scientists projected 'genetic data onto geographical space' using population studies and experiments carried out in places like the Pamir Mountains, the Caucasus and other 'hard to reach' rural communities under Soviet dominion (Bauer, 'Population Genetics' 146). The purpose of the IBP was to investigate 'the biological basis of productivity and human welfare', based on the 'development and application of ecological principles' (Smith 5). The IBP was an attempt to attract governmental funding

for ecosystem ecology, making large-scale ecological research into a government priority. Big Science also meant national competition: it came out of the Manhattan Project and the national space programme. However, the International Geophysical Year of 1957-58 provided a chance for ecologists to reroute the focus on technological development and instead to develop 'a synoptic collection of observational data on a global scale'; the International Biological Program was to be a 'model for the natural sciences to achieve the stature and reach of the experimental physical sciences' (Aranova, Baker and Oreskes 183-4). The failure of the IBP to achieve this goal is not the focus here; rather, of interest in this chapter's reading of *The Sirian Experiments* is the competitive nationalism between the Soviet Union and the United States, already playing out in the space race, through measuring human adaptability, for what it demonstrates about a transnational, in this case highly politicised development of epigenetic thought.

The involvement of C. H. Waddington in the IBP is important to note, given his work on epigenetic inheritance; the notion of making research on environment-organism interaction a transnational priority reflects the cultural significance of epigenetic thinking, not as a peripheral interest, but as central to the history of Big Science as a programme of global science. Its failure to reach comparable prominence in the US is also significant, when considering the political and ideological priorities of the Soviet Union in contrast to those of the US, and how these played out in Big Science. Elena Aranova, Karen Baker and Naomi Oreskes attribute this to a conflict of methodologies and epistemic assumptions between the Big Science mode of research and those of many ecologists. In the Soviet Union, however, it was a different story. It is also important to note that while C. H. Waddington was a British biologist, his ideas were in competition with the Central Dogma of genetic flow published by Francis Crick in 1958, which reduced the passage of genetic information to a one-way movement from DNA to RNA to protein, modelling DNA as an immutable blueprint for the organism to express. Waddington's model of an epigenetic landscape suggests instead that there are various 'developmental pathways' open to an embryo during foetal development, and proposed 'genetic assimilation' as

an evolutionary process through which acquired characteristics would become heritable. Erik L. Peterson argues that Waddington's work did not have as large an impact in Anglo-American science as it might have done for three reasons: his support for process philosopher Alfred North Whitehead, a lack of institutional support, and his marginalisation by the American neo-Darwinians (Peterson 301). The Soviet investment in the 'Human Adaptability' area of the IBP – as opposed to the 'Conservation of Terrestrial Communities' take up by the United States – shows how developmental biology was *already* a Soviet concern.

Eugenics in the Soviet Union was officially anti-racist, partly because the official stance was that under primitive communism, there were no human races, and that 'race' developed as the result of socio-economic conditions.<sup>6</sup> The Soviet man would be a racial hybrid. However, Soviet nationalist policies during the 1920s also reveal 'Soviet anthropologists' concepts of race and nationality', which themselves 'reflected attitudes prevalent in the European and North American discourse at a time before eugenics turned into a politically divisive issue' during and following World War Two (Rudling 45). Soviet biologists Iurii Aleksandrovich Filipchenko, Nikolai Vavilov, and Nikolai Kol'tsov, among others, located 'race' in the blood 'as a means of determining national or ethnic characteristics' (Rudling 48). Racial anthropology remained a legitimate subject of study for Soviet biologists. Well into the 1970s, 'Soviet racial anthropologists continued to chart the "racial characteristics" of various peoples in the Soviet Union, operating within increasingly dated paradigm of pigmentation, shape of eyelids, noses and lip thickness to racially classify human populations' (Rudling). Eugenics in the Soviet Union did not involve the atrocities of Germany or the US along the lines of race. Pers Anders Rudling argues that Soviet eugenicists 'aimed at establishing a Marxist, Soviet eugenics movement as part of a vision for a scientific organisation of society' (46). It was not a question of exclusion, but of studying racial differences for the sake of eventual incorporation into the

---

<sup>6</sup> US biologist Leslie Clarence Dunn visited the Soviet Union in 1927, and his textbook (co-written with Edmund Sinnott), *Principles of Genetics* (1925) was popular among Soviet geneticists. However, the chapter advocating eugenic policies was removed in the Russian version, because – according to the translator's preface – its 'outmoded bourgeois capitalist ideas [...] have no relevance for our body of citizens' (deJong Lambert 19).

Communist project, getting closer to the Socialist man, along the lines of progress and productivity.

The influence of Lysenko on research in genetics was not total; genetic thought was not eradicated, and when it reappeared as a legitimate field of research, it remained allied to the ideological and political interests of Soviet industrial development. Susanne Bauer writes, 'Despite Lysenko's influence on the Soviet life sciences, the terms genetics and cytogenetics began to reappear in medical research during the 1950s, yet they remained an "underground science"', moving to radiation biology and mutations research ('Mutations' 164). By the mid-1960s, Lysenko was declared a fraud and was condemned by Soviet geneticists for 'causing great damage to Soviet agriculture' (Graham 1). Despite Lysenko's fall from grace, his influence over Soviet biology – namely, his fundamentalist environmentalist stance – meant that genetics in Russia from the late 1960s bore this inheritance. An epistemological fertilisation of Mendelian genetic calculability and Lamarckian plasticity occurred. This meant that it was the Soviet Union, and not the West, who led the way in the 1970s 'adaptability' experiments of the IBP.

The genogeographic maps produced in the late-Soviet period were one of a number of public health policies in the Soviet Union during the 1970s geared towards the 'optimisation of the workforce'. Bauer notes that while Western approaches tended to try to 'preserve the alleged backwardness of the populations they termed "unique",' that 'Soviet science policy was to overcome the isolation of these communities' and draw them into the labour force of the Soviet Union ('Mutations' 168). This difference in approach can be elicited in *The Sirian Experiments*' account of difference between Sirian and Canopean methods and aims of and for biopolitical governance of outlying populations. The ideological ambitions of Euro-US geneticists were more transparently directed to eugenic utopias; the Soviet interest in environmental conditioning continued throughout its history. While the early Soviet commitment to ecological research and environmental conservation was overtaken by fast-track industrialisation under Stalin, as Kunal Chattopadhyay argues, the difference between Soviet and Western studies on the subject of human adaptability shows that in the former,

what are now regarded as epigenetic ideas were central to Soviet Big Science ('Rise and Fall'). Despite the attack on Soviet ecology by I. I. Prezent and Lysenko on the grounds of productivity, and the suggestion that scientific theory should be used to 'enhance economic competitiveness with the West or [to] ideologically justify' Stalinism (Chattopadhyay, 'Rise and Fall'), Lysenko's agricultural biology merged productivism with an ideological commitment to environmental influences.

### **Lysenko, Vernalisation and the Lombi Experiment**

I read *The Sirian Experiments* as a critique of Soviet biological research under Stalinist and post-Stalinist productivism, rooted in the idea of enhancing the relation between human and the environment for the sake of industrialisation and workforce optimisation. *The Sirian Experiments* can be read through this history as mingling two moments of Soviet science policy and imagining the implications of their fusion, a project implicit in Soviet ideology but never fully realised: the cultivation of Soviet man through environmental conditioning. Imagining the implications of the fusion of Soviet biology and ideology into a speculative future makes sense of Lessing's deployment of future fiction to explore these ideas. This emerges most notably in the Lombi experiment, which involves the displacement of 30,000 'underdeveloped' people to a remote and challenging climate, and monitoring their adaptation and progress (or, in this case, their lack of it, according to Sirian criteria). The Lombi experiment mingles two centrally planned economic programmes undertaken for the sake of national development under the sign of collective organisation: Lysenkoism during the 1940s and the genographical studies of the 1970s.

In 1948, at the peak of his powers and influence in the Party, Lysenko was responsible for banning genetics altogether as a 'bourgeois science'; this was partly a reaction against Nazi abuses of Mendelism, but also because genetics itself is allied to a notion of property passed on through a genealogy, a profoundly anti-Communist idea. Soviet science research under Stalin was undertaken in

alignment with Soviet political ideology. The context of Stalin's purges and an atmosphere of paranoia meant that Russian scientists went to efforts to justify their research along the lines of Marxist-Leninist ideals. DeJong Lambert writes that during this period, 'Scientists no longer criticized one another, they "unmasked" and "exposed" dangerous ideas' (24). During this time, Lysenko oversaw the expulsion of many Soviet geneticists to gulags or – in the case of geneticists Theodosius Dobzhansky and Hermann Muller – propelled them to seek exile in the United States.

Lysenko applied the idea of environmental conditioning to agriculture during the grain crisis of 1927-29. He was part of the turn to utilitarianism in the Soviet Union at the end of the 1920s, 'growth-oriented and rather statist, [...] not interested in maintaining the integrity of ecological systems [but] willing to trim ecological issues to fit them into political and economic goals created without ecological consideration' (Chattopadhyay, 'Rise and Fall'). The intersection of politics and biological science in the Lysenko affair, prompting H. G. Wells, George Bernard Shaw and J. B. S. Haldane to weigh in, was a transnational controversy, challenging the idealistic perspective of Soviet science among British socialists. The 'sordid affair' prompted Foucault to write *Madness and Civilisation* 'within the horizon of [...] questions' of 'power and knowledge'; he argues that 'science' and 'ideology' can be understood as interwoven into power and knowledge, that science is already embedded into the 'relations with the political and economic structures of society' ('Truth and Power' 109). Foucault's choice of Lysenko as an explanation for his thinking around power and knowledge – rather than the more obvious example of Nazi eugenics – is significant because of an argument he wants to make specifically about 'post-Stalinist Stalinism', which 'exclud[ed] from Marxist discourse everything that wasn't a frightened repetition of the already said' (110); he writes, 'the price Marxists paid for their fidelity to the old positivism was a radical deafness to a whole series of questions posed by science' (110). Loren Graham notes that "'Lysenkoism" became a synonym for pseudoscience in Russia and indeed around the world' (Ch. 1).



The Lombi experiment evokes Lysenko's technique of 'vernalisation': the accelerated development of wheat plants for the sake of adapting seeds to sprout in colder temperatures, alongside the 'adaptability' studies on Soviet citizens carried out by state-funded medical biologists in rural areas of the USSR during the 1970s. Both these examples uphold an ideological narrative of cultivation and expansion. *The Sirian Experiments* can be read alongside the application of Lysenkoist experimentation in the context of adaptability experiments, taking the idea of environmental conditioning into the realm of human experimentation. Read this way, Lessing's novel brings into relief the long-term influence of Stalinist policy on habits of post-Stalinist Soviet governmental practices, characterised by the mapping and exploitation of territory and population by central administration for the sake of expansion, the suppression or annihilation of defectors or those considered 'inutile', and emphasis placed on collective productivity rather than collective living. While productivity requires the objectification of the body for the purposes of extracting bio-energy, collective living is based on the agency of subjects over the use of their own biological resources. There is a marked despondency in *The Sirian Experiments* about the direction of the Sirian project, and its massive human cost. Lessing intermingles images of plantation, ghetto and gulag throughout the novels to underline a world-historical continuum of disciplinary subjugation in which the USSR played its part.

The Sirian Empire succeeds a feudalist regime of serfs and aristocrats, a recognisable representation of Tsarist Russia. Ambien II's description of Alikon, the society preceding Sirius, resembles Soviet historiography on Imperial Russia. Alikon is, according to Ambien II, 'a rigid and militaristic society, based on limited natural resources, whose ruling caste maintained power by use of a repressive religion, keeping nine-tenths of the population as labourers, slaves, and servants' (SE 80); there is no account of the takeover of power which led to the development of the Sirian empire, but this former society bears strong resemblance to the former Russian Empire (1721-1917). The 'ruling caste' of Imperial Russia was an absolute monarchy through which power was transferred by genealogy through the divine right of kings, and the 'repressive religion' can

stand here for the Russian Orthodox Church. Social positions were divided into nobility, clergy, merchants, Cossacks and peasants; the latter made up 80 per cent of the population in 1913. Closing the distance between Alikon and Sirius would also mean eradicating the differences in social organisation, and also between Canopus and Sirius. Ambien II's rhetorical disavowal of certain features of the previous system charts a series of differences between Sirius and Alikon: 90 per cent of the population in Alikon are 'labourers, slaves and servants' rather than, as in Sirius, bureaucrats and educated people in urban areas, and groups waiting for 'civilisation' in the rural areas, with limited resource extraction. Alikon is defined through limits and restrictions of resource distribution, territory and governmental genealogy; Sirius by expansion and development of a utilitarian kind. This is in opposition to the geographical restrictions and 'natural order' of the previous regime.

Lysenko's name first appeared in the Soviet press in 1927, as the grain crisis was taking hold. In the early 1930s, famine in the Ukraine was leading to people dropping dead in the streets. The first five-year plan for a new programme of mass industrialisation followed: collectivisation through the mass conversion of 25 million private farms to collective farms, involving the deaths of approximately three million *kulaks* (land-owning peasants). Lysenko had a key role in determining the biological justifications underpinning collective farming. During the grain crisis, Soviet scientists were asked to consider ways of innovating agricultural productivity, and Lysenko, the son of a *kulak*, was stationed at a research station in the Caucasus to find crops suitable for freezing conditions (deJong Lambert 22). Lysenko invented a method called 'vernalisation': 'the transformation of winter-habited plants into spring habit' (deJong Lambert 22). Literally, 'making spring-like'. It was an idea he had taken from his farmer father, Denis, who had sown winter wheat in the spring after keeping seeds in a sack under snow (he had been hiding them from grain collectors during the grain crisis). Upon planting, he saw that these seeds produced exceptionally high yields. Lysenko promoted vernalisation and its miraculous results, and it was imported as an official agricultural policy.

*The Sirian Experiments* depicts three kinds of biological experiment that can be read through Lysenko's experiments on plants. Lessing translates these into experiments on humans, not just plants. The populations that undergo experimentation are colonised groups relegated to sub-Sirian (sub-human) categories. For Lysenko, plants go through what he calls 'phasic development', determined by environmental conditions such as sunlight, temperature, humidity, chemical elements in the soil and gases in the atmosphere. Graham notes that Lysenko chose to ignore genetic theory when it came to determining biological development: 'He believed that the whole cell, not some constituents in it – was the carrier of heredity', an approach that reflected his commitment to analysing the interaction between organisms and their environments (Ch. 6). There was nothing new in this line of thought, which had been developed by cytologists in France, Germany and Belgium. Lysenko believed in the inheritance of acquired characteristics – which he called the 'internalisation of environmental conditions' (Graham Ch. 2) – and saw this 'materialistic theory' of environment-organism relations as essential to understanding biological development. For Lysenko, breaking the hereditary stability of an organism could happen in three different ways: first, placing the organism in different environmental conditions; second, grafting a variety of plant onto another; third, crossing forms differing markedly in habitat and origin.

Similarly, the experiments depicted in *The Sirian Experiments* on human subjects are conducted through regulating or recreating changes in atmospheric climates, and measuring the subjects' response to them. This involves displacing these subjects into radically different environments. Vernalisation involved interrupting the growth period of winter wheat by sowing it in a very cool temperature for around two months, using snow. This was supposed to hasten the plants' flowering by exposing them to low temperatures. After this vernalisation treatment, the temperature of the environment was raised. In the *Kooperatorka* experiment, the surviving plant flowered in September rather than spring (when it normally matured) which to Lysenko proved the efficacy of the experiment. Lysenko went further: on the premise that the grain from the accelerated-maturity plant would have inherited this acquired characteristic of

early maturation, he took grain from this plant, sowed it in a greenhouse, and this flowered at the end of January. After three generations, he announced that the “habit” [of the grain] had been converted’ (Graham, Ch. 6). He argued that there was no separation between phenotype and genotype, and defined heredity as, in his words, ‘the property of a living body to require definite conditions for its life, its development, and to react definitively to various conditions’ (‘Heredity and Its Variability’ 55). The Sirians’ experiments are based on a set of assumptions about different ways of enforcing accelerated evolution among the subjects of their experiments, for the sake of progress and development. Early in *The Sirian Experiments*, Ambien II describes this as the ‘duty of more evolved planets to guide and control’ the development of others’ (41). The test subjects are disposable experimental material, the ‘broken eggs’ necessary for the omelette of Sirian development (245).

## **Genography and Crisis Management**

The Lombi experiment is undertaken as a response to a crisis of Sirian expansion; similarly, Lysenko’s plant experiments demonstrate the uses of science to resolve problems created by bad governmental policy. Lysenko’s biology emerged as a solution to an agricultural crisis, involving the compulsory expansion of a rural state labour force to supplement the urban workforce; the Lombi experiment is undertaken because the Sirian Empire requires ordinary labour power. It is an attempt at crisis management, the Sirians’ response to a lack of manual labourers in the Sirian Empire and their consequent desire to expand into new territories for the Sirian intellectual class to inhabit. There is an indirect correlation at this point in the narrative to a second moment of Soviet biology: the production of genographic maps as part of Soviet public health policies in the 1970s, and the expansion of Soviet labour. Ambien II’s descriptions of the Lombis are reminiscent of nineteenth century anthropological descriptions of indigenous peoples in Africa and South America by European colonial agents, who – in social anthropologist Alan Barnard’s words – ‘invented the hunting-and-gathering

“Bushman” as ‘specimens of a race very different from and quite inferior to the European’ (23; 20). Employing the typological rhetoric of race and behaviour enables the desubjectification necessary for the utilitarian project. Lessing gathers together imperial anthropology and Soviet population studies in order to connect the exclusionary violence of their practices. While race studies in the Euro-US tend to be focused on maintaining a narrative of white supremacy, in the Soviet Union, race figures differently. For Bauer, the genographic maps evoke race as one of a number of ‘absent presences’, including ‘heredity, eugenics, national, [and] colonialism’, and a holism that ‘may generate again classificatory violence and impose new taxonomies and exclusions’ (‘Population Genetics’ 163).

At the beginning of *The Sirian Experiments*, Ambien II explains that the Sirian Empire needs to expand its labour force because the home population has ‘evolved beyond certain levels’ and that this ‘made it impossible for them to do certain kinds of work’ (SE 31). Despite efforts in population reduction, the Sirians find themselves with ‘hundreds of millions of “surplus” people’ without ‘enough ordinary labourers’ to carry out ‘different classes of unpleasant and degrading work’ (SE 31-32). To deal with this labour crisis, the Sirians decide to make use of colonized populations in order to expand Sirius proper into peripheral Sirian territories. The Lombi Experiment is initiated because Sirius wants to make one of their colonised planets – Colonised Planet 23, ‘a barren planet, waterless, all rock and sand and extinct volcanoes’ – ready for the ‘Thinkers’, those evolved beyond the capacity for ‘ordinary’ labour (SE 33). The Sirians need labourers to clear the ground and to build structures in which the Sirian Thinkers can live. These structures have to be ‘self-contained, with their own climates and atmospheres’, ‘domes of a controlled environment’ (SE 33-34).

They find this labour in an as-yet uncolonised planet, Planet 24, a Sirian ‘discovery’ which they have recently ‘found and explored’ (SE 35). There they ‘find’ a group that they name ‘the Lombis’, which Ambien II describes as a population of ‘animals [...] of simian type, using four legs or two according to need,’ using language akin to a colonial anthropologist documenting the colonial ‘discovery’ of a new species (SE 35). The Lombis are social, living in families, tribes and smaller groups, with a knowledge of fire and hunting and ‘at the very

beginnings of an agriculture' (SE 36). Ambien II's final comment places these observations in a utilitarian key; she notes that 'their main characteristic was adaptability' (SE 36). Identifying their capacity for adaptability as their 'main' feature tells us more about Sirian plans for their use. To follow Barnard, Ambien II 'invents' the Lombis through an already-established set of bio-anthropological criteria in order to claim them as Sirian property. Conceptually, this invention depends on the mapping of genetics to physical territory. In order to register as biologically displaced, the Lombis have to come from an original site. This displacement, as social narrative, becomes important for both the failure of the Sirian experiment, and the adaptation that the Lombis actually undergo.

The Sirians attempt to accelerate evolutionary change in the Lombis to cultivate a population in accordance with Sirian ideals of civilisation, placing proto-epigenetic theory into policy and practice. USSR population studies in remote areas were 'conceived as a means to modernise, providing a scientifically-grounded public health system and making these communities part of Soviet socialist modernity' they were also 'more directly related to a mode of human adaptation, if not enhancement, that was part of the Soviet project' ('Mutations' 167-8). There are repeated examples of these kinds of experiments being conducted throughout *The Sirian Experiments*, with both Canopus and Sirius targeting 'hard to reach' populations and carrying out different kinds of research and experiments on or with them. While the Canopean agent Klorathy is usually found in some kind of didactic relationship with the groups under his surveillance, Ambien II details many Sirian experiments involving high altitude studies. She describes an experiment involving space-lifting 30,000 'species members' to 'a plateau halfway up a mountain range that had sparse but adequate food, and a wet changeable climate', and leaving them there 'to adapt' (SE 187). These experiments demonstrate a conceptual link between people and territory in a way that pushes an epigenetic instrumentalism into government public health.

I suggest that the depiction of Sirian experimentation in Lessing's novel can also be read alongside Soviet biomedical studies in the Soviet Union into scientific practices for optimising the workforce. Studies in the 1970s targeted

different professional groups for the sake of increasing their productivity; most notably, factory workers, railway line workers and construction workers.<sup>7</sup> Bauer notes that many Soviet population geneticists also focused on ‘communities living in extreme conditions, including either industrial exposure or extreme climates’ (‘Mutations’ 167). In 1977, there was a study carried out on the ‘adaptive physiology’ of high altitude populations, measuring the capacity to work, physical performance and ‘adaptive capacity’ of local communities, and even whether these high altitude conditions could be used for therapeutic purposes (‘Mutations’ 168). In terms of genetic and evolutionary theory, the scientific presuppositions of these experiments, while ‘situated in a genetic paradigm, [...] were also compatible with some of Lysenko’s postulates’ about short-term evolutionary change, or the idea that populations could adapt over the course of a generation to extreme environmental changes (‘Mutations’ 168). The experiments allied genetics to the ideological predominance of ‘nurture over nature’ in Soviet life sciences during the 1930s and 40s.

The combination of biomedical surveillance with expansion and settlement projects of the 1970s echoes Ambien II’s descriptions of Sirius’s development initiatives and adaptability studies. The Soviet studies were geared towards optimizing the working conditions and the workforce itself; more broadly, they were about ‘humankind’s capacities to response to changing environments and aimed to find physiological principles on adaptation to new conditions, which included contemporary and future workplaces and, possibly, outerspace’ (Bauer, ‘Mutations’ 168). These studies were undertaken for the purpose of Soviet development, concerned with how to achieve the highest levels of productivity out of citizen-workers. This purpose evokes the teleology (‘agapasticism’, or evolutionary perfectibility) of Lamarck: the idea that evolution moves towards the progression and amelioration of species. It also suggests that this forward movement can be seized and conditioned by governmental

---

<sup>7</sup> One study followed the workers who moved with the construction of the Baikal-Amur Magistrale, a railway line going across Russia, from Tayshet to Bratsk. Construction of the BAM line began in the 1930s, with the Tayshet to Bratsk section of it being built by inmates of the Bamlag gulag. Construction of the railway in the 1970s opened up the BAM service area to thousands of young people, with new settlements and bridges built.

intervention, a situation registered in the novel. In keeping with the Sirian desire for improvement, Ambien II says that the Sirian technicians watch the Lombis 'closely, constantly, for signs of the familiar demand for more, for higher, for better' (SE 41); that is, for the innate capacity for 'more' to exhibit itself in the Lombis.

Ambien II describes the Sirian experiments in a racialised anthropological register, and the Lombi experiment is specifically grounded in the creation of a racialised sub-species of human. Ambien II writes, '[T]his whole experiment was based on an attempt to keep, just for once, a race on a subservient level' (SE 47). The aside, 'just for once,' a break in speech to parenthesise the experiment as an anomaly, also functions to justify it. 'Just for once' articulates a biological caesura, the explicatory parenthesis correlated to the caesura in the biological continuum created by the Sirians' invention of the Lombis as a separate race, a textual caesura standing in for a division in power. It represents the biological caesura that the Sirians place between themselves and the Lombis. In their treatment of the Lombis, exemplified here and throughout, the Sirians fulfill Foucault's three criteria of biopolitical control in *Society Must Be Defended*: first, through relations between man and the environment; second, charting and mapping experiential phenomena (natality and mortality rates) through observation in order to distinguish and describe constants and anomalies; third, to collect these observations into population data, and to make predictions or estimations based on statistical 'facts', biopolitical governance working always towards 'the level of generality' (245-46). Governance of the Lombis is reduced to the merely (ostensibly) biological, and merges their life processes into a technological ordering of life itself for the sake of Sirian development.

### **The Lombis and Transgenerational Epigenetic Immunity**

I have so far explored the historical analogy of Soviet biology in *The Sirian Experiments*. I now explore the theoretical implications of what I identify as epigenetic change in the text, which I call 'epigenetic poiesis'. Epigenetic change emerges in the Lombi population, but as a form of resistance to further capture;



in this sense, the 'epigenetic' experiment works, but not for Sirian gain, but as a socially-coded and biologically cultivated protection of the group against their enslavers. The Lombis exhibit what I identify as transgenerational epigenetic change in response to the threat of recapture and a repeated displacement, a physical adaptation to an extreme climatic change, which emerges as their flight response (restlessness, fitfulness) as an inherited protection against a historical attack. This can be allied to Darwin's thesis in *The Origin of Species* about species survival, which he linked not to strength as an individual trait, but to adaptability as a general capacity, a feature that would ensure species could become 'better designed for an immediate, local environment', the emphasis being on 'immediate, local' rather than towards a loftier, a-temporal goal of biological perfection. While the Sirians associate adaptability with getting stronger, the Lombis' seeming incapacity for (Sirian norms of) development enables them to survive. One of the challenges that epigenetics poses to Herbert Spencer's doctrine of 'survival of the fittest' – 'the preservation of favoured races in the struggle for life' (*Principles of Biology* 444) – is the idea that changes can occur that do not fit criteria for 'good' or 'progressive' adaptation. Holding these ideas in mind, I suggest that the Lombi experiment brings forth a form of survival that allows the Lombis to develop outside the determinations of Sirian conditioning.

There are contemporary descriptions of epigenetic processes of change and inheritance, appearing forty years after the publication of the *Canopus in Argos* novels, which nonetheless resemble the kind of change described by Lessing's protagonists. Molecular biologists Oliver J. Rando and Kevin J. Verstrepen describe epigenetic inheritance in terms of 'rapid phenotype switching' (660). Epigenetic changes can account for what look like accelerated evolutionary change across generations, and take a number of forms. In the case of the Lombis, the inheritance of DNA methylation patterns and RNA molecules are particularly relevant. DNA methylation occurs in cells and controls gene expression, silencing or activating the expression of genetic material; progeny might inherit the state of a gene as it has been silenced or activated in its ancestors; this means that genetic material long silenced can be expressed, and that this new activated state can be inherited by future offspring. RNA –

ribonucleic acid – is the transcription or copy of a strand of DNA (as micro RNA) that is then translated into a protein.

Moreover, these changes can travel between different ‘surfaces’ of the body, challenging August Weismann’s thesis that germ cell material cannot be changed. Biologist Oded Rechavi argues that small RNAs have the ‘potential to serve as transgenerational carriers of somatically-acquired traits’ in the movement of regulatory RNA molecules between cells and tissues (213). This means that silencing can travel between different somatic surfaces, including the germ line. As Rechavi points out, this thesis challenges the so-called ‘Weismann barrier’, which argues that the material in the germ line is impermeable and immune to external influences. Rechavi argues that the biological purpose of the transmission and inheritance of small RNA could be to ‘establish the foundation for transgenerational genome immunity’, against viruses already experienced by previous generations and to defend against transposons (215).<sup>8</sup>

However, Rechavi also notes that it is important to acknowledge that some epigenetic effects ‘favour’ invading viruses and ‘establish an inherited susceptibility’ (218). Crucially, epigenetic effects are not always tied to the Darwinian principles of survival or selection, but can limit survival potential in subsequent generations. This caution is intriguing, as it shows how radical the epigenetic proposition is: Darwin’s positioning of selection as the central driving force of evolutionary change, and its accompanying assumption that adaptation works along the general lines of survival and improvement, is undermined by the idea that an organism’s ‘negative’ response to the environment can be transmitted and maintained in its progeny. Rather than evolution working at the level of a discrete individual in a top-down instruction system, this presents a more horizontal image of adaptation, where different processes going on within and outside ‘the individual’ can affect and alter the constitution of future offspring. Epigenetic events propose an assemblage understanding of organisms as part of open systems, made vulnerable and always host to various kinds of molecular dialogue. The roles of different kinds of RNA in epigenetic inheritance,

---

<sup>8</sup> Transposons, or ‘jumping genes’, are DNA sequences that can change position within genome, sometimes leading to or reversing mutations.

as well as the inheritance of genes in states of activation or silence, complicate questions of genetic engineering – which will become important in the following chapter – as well as the general story of evolution as a more or less progressive narrative, and the idea of genetic determination at the point of fertilization.

These descriptions of epigenetic processes challenge epistemological orthodoxies around genetic inheritance. Given the possibility afforded in speculative fiction to imagine alternative modes of transformation, I identify the changes undergone by the Lombis as ‘epigenetic’ for two reasons: first, because they undergo accelerated change that cannot be accounted for in a version of evolution in the Modern Synthesis, by which adaptation takes place slowly and change occurs incrementally, but which occurs through what Rando and Verstrepen call ‘complex switching mechanisms to reach the seemingly simple goal of turning genes on and off’ (660). The adaptation of the Lombis in response to a sudden climatic change takes place ‘outside’ the genome in psychological and physiological responses translated into a set of physical reflexes. They exhibit a heritable defence reflex that does not change their fundamental phenotypic constitution, but constitutes a change in the way they move and use their bodies, as I explore below. This can be identified as ‘stochastic switching’, which, according to biologists Murat Acar, Jerome T. Mettetal and Alexander van Oudenaarden, occurs when ‘cells in the wild have to face and surmount the challenges raised by random fluctuations in extracellular conditions’; these might include changes in temperature, pH, and concentrations of nutrients and toxins (Acar, Mettetal and Oudenaarden 471). They argue that this is not simply a question of gene-environment interaction. More radically, these changes can be induced due to the ‘phenotypic heterogeneity in genetically identical cells’ (471). That is, cells which may be *genetically* identical, containing the same genetic information, may be different with regard to phenotypic diversity. In response to stressful external conditions, a cell might “blindly” anticipate and survive environmental changes by randomly switching among multiple phenotypes, each fit to a particular environment’ (471). This is a ‘strategy’, in Acar, Mettetal and Oudenaarden’s words, for ensuring that at any given time, ‘an optimal fraction of the population is prepared for an unforeseen environmental

fluctuation', allowing the population 'to act at a faster timescale' in response to sudden environmental change (474).

I read the Lombis' adaptation as speculative, not empirical, restricted to the possibilities of *sf* rather than a realist depiction (or prediction) of biological adaptation. Rather, the narrative takes up the concept of epigenesis and writes it as a form of resistance, and *as* resistance. When Ambien II goes to report on the Lombis for the first time after their forced displacement to Planet 25, the Lombis have developed a new characteristic: 'restlessness and fitful energy', which Ambien II describes as a '*physical* change' (SE 45). Is this change purely physical? Seeing Sirian technicians approaching them, the Lombis 'ran to find cover and disappeared', meaning that 'it took days for the first encounter' (SE 44). Moreover, while 'none of [the Lombis] remembered, as individuals, their capture from their home planet and subsequent events,' they 'remembered *as a race*: this was the most important change: their speech had evolved' (SE 44; *italics mine*). This is an epigenetic moment; the memory of capture and forced labour has been transmitted at a collective level, and is correlated with their development of speech. The collective memory requires the development of speech *as inscription* as creating place to hold it, and has become a shared-out experience, not restricted to one or two people per generation but through the whole group. This implies that the Lombis' capacity for speech has happened not because of their innate predisposition towards 'adaptability', but because the task of remembering their traumatic history makes it necessary to develop speech in which to place it, 'not over the business of day-to-day maintenance of life, but in this one direction: they had songs, and tales, that instructed them in all their history' (SE 44). The necessity of historical instruction over daily communication has inscribed a kind of 'gene memory' of oppression out of which their capacity for speech has developed. The Lombis' fear of the Sirian visitors, their evasiveness and hiding away, their furtive and suspicious interactions; their commemoration of their traumatic history also recognises that their initial displacement can be repeated for the benefit of outside interests. By hiding away and by developing the physical capacity for spontaneous flight, they (attempt to) protect themselves from re-capture. They reconstitute the social bonds of their ancestors

through this mingling of fear and suspicion, but also their shared efforts to ensure that such an event will not be repeated.

The Lombis are in some sense successful. If their survival depends on avoiding re-capture by hostile powers, then this is what they achieve. The Lombis are left on Planet 25, diagnosed as incapable of development by Ambien II. When she re-visits them for a third time, she finds that they have not ‘advanced’ beyond the family or tribe as social unit which ‘seemed to be retarding them’; they live in shelters as ‘crude’ as before, they continue to hunt and to use fire, but they have not ‘progressed’ in their development (SE 119). She wonders if this signifies their innate inferiority, understanding their failure to develop according to Sirian aspirations as a fundamental biological weakness: ‘The point was that the Lombis had no capacity for development, or seemed not to have,’ she concludes (SE 119). The narrative game played here between the assumed distance between Ambien II’s description and the Lombis’ activities as they appear to a reader is that the Lombis *have* adapted, but this adaptation has converted ‘dread’ of re-capture into social and physical habits:

In the daytime the Lombis ran about, and attended to their sustenance, but at night they gathered with the first sign of the sun’s going into their groups and pressed together around their little fires, cowering and waiting for that moment when a rock, or leaf, would emerge greyly from the thick black and tell them that they had once again survived the extinction of the light. (SE 120-21)

Ambien II describes this scene with a tone of pathos; for her, the Lombis have created monsters of their own imagination, without knowing their intended purpose in the grand Sirian narrative of progress and development. For her, their invention of gods and monsters as a means of protecting themselves against further capture is a symptom of their stunted development. The Lombis have been conditioned by the Sirian experiment, but not in the way that the Sirians hoped: not towards Sirian benefit, but in the direction of self-protection against known invasions. The Lombis’ narrative shows on one hand the Sirian failure of

forcing accelerated development, but also can be likened (although not reduced to) an anti-colonial strategy of identifying the needs of the master, refusing to fulfil them, and thus avoiding further exploitation. The Lombis are left to languish by the Sirians on Planet 25, no longer required.

The failure of the Lombi experiment is a disappointment to the Sirians. This failure is displaced into a grander mistake, not an error of process but a fundamental epistemological flaw in Sirian governance. Ambien II's description of Lombis' suffering is a turning point in the narrative, precipitating her realization of the violent after-effects of the Sirian experiments. She observes,

The planet was a dark one, by nature and position. The Lombis must have had it in their gene memory the knowledge that nights could be lit with infinite variation from a star hanging so close it seemed like a creature, a living being – and changing from a full and bright disc to the tiniest of yellow cracks one had to peer towards and watch for... and then up flash the stars, giving light when a moon is *temporarily* absent. (SE 120)

The reference here to daybreak stands as an intertextual reference to anti-colonial, pan-African poetics in the 1960s and 70s: specifically, Aimé Césaire's repeated phrase in *Notebook of a Return to a Native Land* (1939), '*au bout du petit matin*' - at the end of daybreak, and Frantz Fanon's invocation of Keïta Fodéba in the chapter on national culture in *The Wretched of the Earth* (1961): 'Dawn was breaking – dawn, the fight between night and day. But night was exhausted and could fight no more, and slowly died' (183). Contrary to her previous observation that the Lombis have no capacity for development, Ambien II recognises a different form of writing: the inscription of cultural memory on genetic memory, activated in response to the pure terror of their daily existence. To follow Heidegger, they 'dwell poetically' (212), the everydayness of an inauthentic Being-in-the-world which, as Alexander Di Pippo has argued, became Heidegger's conception of poiesis, rather than positing it as an original site of truth (14). The Lombis have written the constitution of the stars as they

appear to them, a cosmology that collapses space-time into a present continuous, reading celestial bodies as fellow creatures and the objects of their environment – rocks and plants – as night watchmen; they have fashioned an ecology of oppression, in-so-doing decapitating the imagined power of the sovereign; the colonial agent is no more fearsome than the total darkness.

In *Ambien II*'s description there is the recording of what Fanon describes as 'a body of efforts by which a people has created itself and keeps itself in existence' (188), a quasi-national culture formed not by the construction of a pre-imperial folklore long since forgotten, but out of struggle, and not for the purpose of expansion, but survival. The Lombis' survival is a feeble chorus in a silent bush, an effort of existence, not available for capture by governmental transhumanism. *Ambien II*'s recording of it translates this effort as critique, as political activity, disrupting Sirius's claim to world-building power.

### **Evolution by Chance: The Lombis and Epigenetic Poiesis**

The Lombis are the first example in *The Sirian Experiments* of a process that I describe as epigenetic poiesis. I have chosen to use this term because it conveys the speculative element of their transformation as a creative endeavour subject to chance, while also linking it conceptually to the field of biosemiotics. Biosemiotics looks at forms of living adaptation occurring through the communication and interpretation of signs, while also destabilising epistemological categorisations of experience (atmospheric, biological, verbal, emotional). The idea of evolution by chance was foundational to Darwin's theory of evolution, distinguishing his from the teleological theory of Jean-Baptiste Lamarck. Charles Sanders Peirce, whose triadic semiotic theory is foundational to biosemiotics, uses this idea in his semiotic account of evolution. For Peirce, tychism (evolution by chance) in Darwin is 'the support of a vital freedom which is the breadth of the spirit of love'; through this, he argues, 'we may be able to

produce that genuine agapasticism [evolution by creativity, as in Lamarck] at which Hegel was aiming' (CP 6, 293-5). This interest in chance and creativity as the 'support of a vital freedom' is intrinsic to Peirce's semiotic, and also to biosemiotics. Distancing his own inquiry from Hegel's faith in a 'method of inclinations', Peirce develops a notion of semiotic movement (adaptation) from experience, with the constraint of fallibility (error, risk, loss) drawn into his deductive method.

I derive the concept of epigenetic poiesis from the Peircean concept of evolution by chance as a semiotic process (an ongoing process of interpretation). Epigenetics allows biosemiotic thinkers such as Eve Jablonsky and Marion Lamb to suggest modes of biological inheritance that occur alongside genetic inheritance. The Lombi experiment throws up something unexpected, departing from Sirian teleology, and disrupting the fundamental structure of Sirian governance. This disruption eventually leads Ambien II to criticise Sirius and 'contaminate' her fellow rulers with dissent, and the breakdown of Sirian sovereignty. The Lombis adapt to the new environments they are placed in, but this adaptation cannot be used in any productive sense by the Sirian developers. They have an epigenetic response to their new environment, expressing the 'gene memory' of their traumatic past. While the Lombis become adapted to their environment through Sirian intervention, their kidnapping and relocation produces a kind of genealogical trauma, preventing them from being of further use to the Sirians. This results in the experiment being considered 'inutile' by the Sirians, and the Lombis diagnosed as being incapable of development (SE 117).

The question of whether trauma can be inherited is a prominent debate in current writing on epigenetics, given the uncritical attachment of cause and effect in popular understandings of genetics. Biologist Rachel Yehuda's paper, 'Holocaust Exposure Induced Intergenerational Effects on FKBP5 Methylation' (2015), generated much publicity. However, objections were raised to the idea of heritable trauma by, among others, Ewan Birney, who questioned the small sample size (32) and the basis of the study in blood ('Why I'm Sceptical'). Significant here about the idea of heritable trauma is not its scientific plausibility, but the imaginative challenge to narratives of progress and strategies of



resistance based around a coherent 'I': that is, the thinking being as a discrete body in a series of calculable interactions with its environment, reducible within a typological, statistical framework of life itself. Rupturing the coherence of 'I' also means, to an extent, destabilising the integrity of governing structures based on the calculation of citizenship via one-person counting as a vote. The idea of inherited trauma functioning at a collective level, which disallows individual development in the name of group survival, destabilises the functional integrity of 'I' – as identifiable civic actor – in the public sphere. In *Rogues*, Jacques Derrida states this formulation through the challenge posed to the base unit of calculation in democratic governance – one person = one vote – and asks,

What is to be done with what is called the unconscious, and thus with the spaced divisibility, the hierarchized multiplicity, and the conflict of forces it imposes on sovereign identity? How many voices, how many votes, for an unconscious? (54)

While this question about the political implications of psychoanalytic formulations of 'the self' for democratic calculation seems removed from the biological, the possibility of inheriting states of minds through a biological genealogy complicates the idea of political action restricted to a common identity that excludes others. To take a stand for or against something is to construct the self (again, individual or representative of a collective) into a coherent place of origin, to articulate a goal or a set of demands.

In the case of the Lombis, this place of origin is an absence, a void, and it is on this basis that they organise their sociality, and this which is transmitted to future generations: a 'gene memory' of absence. Ambien II's observation that they remain confined to tribal and family groups, and by implication that they have not developed into individual units that will make up a civic commons, is also an observation about a lack of political consciousness. Yet the Lombis have made this lack into the basis for their mode of living; it informs their culture and forms their motor memory into an inherited flight response.

The Lombis remake their relation with the world in response to what, for them, are chance events. They respond collectively, rather than as individuals. They are described as being ‘constantly on the move, changing their residences, their plant-gathering places, their watering places’ (SE 45), to prevent the repetition of their capture. Their restlessness and fitfulness represents a physical adaptation to a psychical conditioning, part of their socialization as animals by the Sirians, with few resources for self-protection and survival. Their restlessness reflects, rather than contradicts, their ‘fearful and secretive’ states of being; their monthly rituals commemorate their ancestral abduction. Ambien II describes them as developing into ‘a race of strong, indeed violent, contradictions’, intent on hiding from ‘strangers from the skies’ (Sirian technicians) arriving in a similar manner to those who took them away from their homeland; at the same time, the Lombis wait for rescue from these strangers, to be returned to what they call their ‘real home in the skies’ (SE 45). This is recognizably a retelling of the transatlantic slave trade and plantation trauma, which Lessing mingles with a Soviet history of adaptability experiments. Trauma motivates the interpretation of their surroundings, leaving a mark that is expressed across generations through shared memory.

The Lombi narrative is not a Hegelian narrative of master-slave, wherein the Lombis develop self-recognition in relation to their masters. The Lombis disappear from the text as a failed experiment. Yet they also deposit a memory in Ambien II that ends up unravelling her position as colonial administrator, making it impossible for her to continue her work as Sirian bureaucrat. They leave the memory of an adaptation without an identifiable purpose for Sirian interests, at once caused by Sirian biopolitics and also emerging to frustrate Sirian purpose. The Lombis’ adaptation has no use but for their own survival. This is not a willed resistance, but a survival response, not the intention to dismantle or to resist their slavery and abandonment, but the emergence of a gene memory that carries the trauma of their past.

The Lombi experiment is a narrative of epigenetic poiesis, a remaking through response to chance events, and the shared experience of displacement and suffering. This shared experience inscribes an epigenetic mark in the Lombis’

gene memory, passed down from generation to generation, a change that does not leave a trace in their DNA and cannot be captured by Sirian technicians, but which works for their own benefit, rather than that of their Sirian captors. It is a manifestation of freedom, in the sense that it expresses the decision of the Lombis to live, to carry on living, and to manage the threat of their future annihilation. The Lombis create their world as a vehicle for their own survival, in dialogue with the environment which produces their response to it. This response is not a calculable transmission and translation of information across borders of organism and environment, but constitutes their world. Following Peirce, the Lombis' evolution arises out of chance responses necessitated by the requirement to interpret their place within this new environment, not directed towards a particular end, but a creative, emergent and ongoing process.

Jesper Hoffmeyer calls this 'semiotic freedom', which Wendy Wheeler describes as a kind of flourishing, the 'the richness of our semiosis; our contacts, our ability to be heard and responded to, our sense of being supported and effective in a rich number of ways' (109). While this might appear as a fantastical or imprecise way of understanding living, as well as a highly idealized reading of the Lombis, who after all do not seem (to Ambien II) to be flourishing, Wheeler means something different to Ambien II's use of 'development'. The Lombis do not develop according to Sirian needs, but they flourish according to what they determine as their own. Their stress and fear are mediated by their responses; this is not an ideal way of living in the sense of Canopean harmony or Sirian utility, but nonetheless it is a kind of politics. This politics is not dependent on the calculation of a voting body, but on the commemoration of an absent centre, the knowledge of a lack; it is not apophatic in the sense of describing their gods in the negative, but in acknowledging the absence of their own knowledge about their origin. This ambivalence, a psychic state of epigenetic poiesis, is closer to an apophatic humanism – a knowledge of themselves as 'not' being where they should, living in the hope that they might one day be returned to a place they do not remember. Their existence is not centred on accepting or welcoming, but on escaping and returning. Their future is directed towards filling this lack.

## Multicultural Inequality and Biosocial Ambivalence in Koshi

Developing the idea of ambivalence as a psychic state of epigenetic poiesis, I turn in this section to Ambien II's description of the city of Koshi later in the novel. Koshi resembles a contemporary world city under rapid and uneven development. Here I draw the ambivalence of the Lombis out of the analogy of the Soviet era and resistance to workforce optimisation, to a discussion of migrant working classes in contemporary world cities, which do not function evenly with regard to governance, but which house contradictory and conflicting political organisation. The Lombis' ambivalence in the face of the Sirians' attempted instrumentalisation of them introduces a way of thinking through anti-coloniality as an ongoing and often ambiguous or even undetectable project of the present moment, when viewed from a top-down perspective. (This discussion foregrounds my reading of Planet 8 as a text of anti-colonial resistance in Chapter Four.) While the Lombis represent the invention of a rural periphery by an imperial centre, *The Sirian Experiments* also explores experimentation in urban design and construction by neo-imperial centres. This necessitates the displacement of workers from around the various territories to urban centres in order to carry it out, resulting in the 'mixture' of different 'types' in informal and unregulated spaces (from the perspective of the typologising governing eye). This goes beyond the example of Soviet biology, foregrounding a contemporary moment of urban living: the era of the 'multicultural' megacity, and various sites of biosocial resistance.

I use the term 'biosocial' to refer to the sociality of metabolic systems, in terms of the relations produced through ensuring the continuation of metabolic function (more simply, survival), between humans and non-humans, inanimate and animate matter, and how biosociality designates living spaces. This extends Paul Rabinow's concept of biosociality as the social relations and identities formed through knowledge of genetic or biological conditions, when new genomic technologies of diagnosis and intervention create new possibilities for (or restrictions to) life for medical subjects, changing social and ethical practices

(Rabinow 183). I extend Rabinow's concept first, to include non-human subjects, and second, to pivot his focus from biosociality constructed through knowledge and diagnosis, to biosociality arising through metabolic dynamics. Rabinow's suggestion of new biosocial identities takes for granted that subjects have access to information about their genetic or biological conditions, and is therefore restricted to a rarified context of individualised and pre-emptive healthcare. My use of biosociality – social relations that arise through the necessity to keep metabolic dynamics going – allows a discussion of peripheral subjects engaging in ongoing negotiations with their environment for the sake of survival, often past the point of hope.

After her trip to see the Lombis, Ambien II visits Koshi, a sprawling urban centre in what appears as an African plain. She narrates an aerial view of Koshi, hovering over it in her spacecraft:

The first thing to be seen here was that it had experienced recent growth, that it bulged and spread out to the west in large suburbs of shining white villas and gardens. These covered more ground than the old city, which was earth coloured, and composed of densely crammed buildings from which rose tall cone-shaped towers. In other words, there was a disparity between the rich and the poor – a *punishable* disparity, to my mind. Gardens of an ornamental kind spread around the western suburbs. Market gardens lay to the south. To the east, the poor mud-coloured dwellings ending in the shabby-looking semidesert. The great city on its eminence in the plain had lost its vegetation almost entirely. (SE 132)

Ambien II's noting of architectural colour is implicitly racialised, colours corresponding to a class divide: the 'shining white' of new developments split from the 'earth' and 'mud' of slums. The new city is a brightness of clearly-drawn lines between organic growth and concrete growth, manicured 'gardens' for the purpose of decoration instead of 'vegetation', or any complex ecosystem weaving – beyond human intervention – life as biomass. The old city sucks in life, rising

upwards in vertical slums, incorporating detritus as population density, an urbanisation of the word 'earth' that forces it out of any kind of naturalist idealism, into the exclusionary mechanism of the 'disparity between rich and poor' (SE 133). While the white developments 'bulge', the earth-coloured 'old city' is crammed, jammed, out of space. The architectural incongruity designates an incongruity between the inhabitants dwelling in the two sections of the city; it brings a class difference into the infrastructure of the polis.

However, this articulation is only perceptible from the air; on the ground, foliage is made to function as a 'natural' barrier between the two. Landing in the old city, Ambien II notes, 'all I could see of the rich suburbs were a mass of trees in which I knew the houses were disposed' (SE 133). In the air, the boundary between 'new' and 'old', the disparity between rich and poor, is visible as a feature of urban planning; on the street, the 'new' becomes something hidden from view, behind a 'natural' boundary, impermeable to the residents of the 'old'. In the old city, surveillance is simple, and for this reason, development in the old city is restricted. The governability of the old city is built into the limits of city development. The tall cone buildings in the old city are not tall for want of space – 'there was all the space that any system of governance could possibly need', outwards into the plain – but because 'tall tightly populated buildings are easily policed and supervised' (133). They seem to Ambien II 'rather like certain ant heaps' (133); the reference to scale signals the reduction of humans to insects or small creatures made possible by this urban design.

In this densely-packed space, Ambien II perceives the ease with which organic matter mixes, noting the 'very varied genetic mix' of a group of men, 'probably traders':

I fancied I was able to see in them the high moulded cheekbones and wide-set eyes of the old giants, as well as the sturdy set of the natives, but this group of twenty or so were quite extraordinarily mixed, of several skin tones, and with grey and green eyes as well as the more familiar brown. (SE 133-4)

Ambien II's perception of 'mixed' genetic origins is in line with her typological perception of living beings. An efficient colonial administrator, populations can be reduced to types on a phylogenetic tree of increasing complexity through her diagnostic gaze. Her perception of the genetic mixing based on their phenotypes signals her own biopolitical surveillance; like a good anthropologist, her gaze connects the (as-yet-unconfirmed) social position of the men as 'traders', and the exogamous reproduction enabled by a system of global capital. Genetic material is disembodied, fixed not to people but to territory: the native land has been mixed with a foreign soil. Her description reduces the inhabitants to geographically-determined gene clusters, where particular genes 'code for' certain facial traits (nose, cheekbones, eyes).

Yet as she explores further, her attempts to typologise the residents of this part of the city falter. While Ambien II fixes her diagnosis of the traders as 'mixed', this is an effort to typologise a situation that she finds overwhelming and chaotic, to assert a degree of control, if only by exercising a mental habit that has been such an important feature of Sirian governance. She is following procedure, activated by uncertainty into the ethnographic mode. The cramming of Koshi's old city's 'crooked streets and lanes' is not just the habitation of physical space by people, but what urban geographer AbdouMaliq Simone, writing on Jakarta, calls the 'interweaving of temporal rhythms' in 'a built environment littered with projects of all kinds, full of consolidations, fragments, remnants and repetitions' ('What You See' 229). Similarly, Ambien II observes the material traces that put the city into motion. These rhythms are not just social, but also biological – they are the metabolic rhythms of various strategies of survival going on in proximity to one another. The traders that Ambien II encounters are, for her, composed of the temporal rhythms of different genetic expressions – their appearance of 'mixing' articulates a history of global movement and commerce. Her observations as she wanders through Koshi's old city fix a Malthusian gaze onto the interactions of its inhabitants:

This was a sad and to-be-pitied people, I could see, even more now the night had come, and they were taking their ease. They were

drunken, often fighting, tense with deprivation, and the degraded females dominated everything, openly selling themselves, and retiring with their customers no further than into a doorway, or under a table. (SE 136)

Ambien II places reproduction at the centre of this nightly performance of degeneration: it is the sex workers who 'dominated everything', reproducing the chaos of the section of the city with unplanned and unregulated assignations. Meaning is not fixed; sex here is not for the sake of marking and maintaining a genetic inheritance; these areas will be repopulated by the illegitimate products of paid sexual exchanges, the results of public sex between strangers.

In contrast, Simone finds a space that continually escapes the ethnographer's gaze, who must instead try to enter these rhythms of experiment and manoeuvre, in the uncertain hope of sensing a transformation or two. Where Ambien II sees 'shacks and hovels [and] swarms of people' in Koshi (SE 134), Simone reads 'collaboration and reciprocity [...] each street and lane characterised by a hotch-potch of the old and the new' (230) in Jakarta. For Ambien II the old city is motivated by fear of local officials and harsh punishments – 'I knew that the inhabitants of the city were afraid' – assuming that their experience is organised around the threat of governmental recrimination; for Simone, 'collaboration and reciprocity' are 'experimental devices whose aim is not usually to cohere to an emergent social body or concretize a collective-to-come', practices that 'do not produce a zero-sum game of clearly identifiable winners or losers', nor necessarily 'work towards enhanced levels of solidarity aimed at securing clear political objectives' (229); these practices do not try to guarantee representation, because such representation would mean exposing and fixing practices into responsibility and contribution, no longer the realm of the immediate and local, but subject to the governing mechanisms of sovereign power.

Simone reads Jakarta's 'majority world' – which I read alongside Koshi's old city, separated from the luminescent hidden world of prosperity by a border of trees – as perpetually at strike, a present continuous striking, seeking



temporary entry to the 'right procedures' only for the sake of setting particular processes into motion, borrowing resources, commodities absorbed into a flow of conditional exchanges. In Simone's view of the city, the uneven combination of single and multi-storey, the density of bodies, the 'mixtures of residences' embed residents 'in a built environment that facilitates or constrains particular comings and goings, visibilities and vantage points, soundscapes, inputs and evacuations of raw materials and waste, along with public exposure and private containment' (229-30). This is not a valorisation of 'making do'; Simone observes that this heterogeneity is also tied to the necessity of governance, however unevenly and informally legislative rule plays out in practice. The 'new' city, converted from 'multiple registers of use and ownership into the exclusive prerogatives of private property', is somehow outside this governability, not 'a simple assignation of specific rights' but a 'modality of clarity that need not engage in the messiness of negotiations and transaction costs' (230). 'Clarity' here can be read as corresponding to the 'shining white' villas of Koshi's new divisions, the precision of the gardened borders that 'obviate the need for regulation of externalities.' This minority, core world of private property development – which 'bulge[s] and spread[s]' to the west of Koshi – squeezes the margins for acceptable behaviour and daily life in the urban periphery. The world of infinite resources constrains the world where resources are in short supply.

The jamming and cramming of Koshi's periphery makes the concept of 'property' ambivalent, and this extends to biological property. It is not the old city, but the white shining world that is not subject to regulation, hidden behind a 'natural' boundary, a space of economic exclusion and genetic purity, untouched by the bodily exchanges of chance interactions between differentiated types. When Ambien II notes mixed genetic origins in the old city, attaching the feeling of fear and threat to this diagnosis, she implicitly articulates an anxiety around mixed-race reproduction happening by chance, while also assigning these 'variations' to the socio-economic status of 'traders'. It is one thing to breed new hybrid forms, to extract with intention the most desirable aspects of one race and combine them with the most desirable aspects of another, but the unplanned and unchecked mixing she observes in Koshi's old

city has nothing to do with imperial ends. If anything, the mix of giant with native dilutes the 'good' stock of the giants with the 'degenerative' stock of the natives: a waste of good genes. Trading, too, is a profession associated with mixing. The mixed-race people can be incorporated in the imperial classification system, but only as those engaging in 'mixed' pursuits, and the movement of goods through the globe. The 'trader' is, then, a racialised, 'biological' category of work, in the sense that the movements of global trade articulate the mythology of 'mixed-race'.

Ambien II describes what can be described as an ambivalent biosociality in her description of Koshi: social relations are not fixed or bound to a higher authority, but are centred on the ongoing activity of social and biological survival. Residents work to ensure that their metabolic function does not cease operating. For this, flexibility in response is crucial; what works one day may not the next. The idea of 'good' stock that will prevail and guarantee survival does not fit here. Following Simone, survival in Koshi's jammed periphery is characterised by negotiations and compromises, not by the eugenic preservation of genetic heritage.

In her role as colonial administrator, Ambien II expects to feel familiar wherever she is, but in Koshi's old city, she reports: 'I did not feel familiar. There was a sharp tang of difference, of the alien, that was affecting me sharply' (SE 134). This alienation can be described as the difference between biosociality and biopolitics: the first is based on social relations whose power dynamics are in motion, subject to fluctuations of a global economy, and the second on top-down power relation between a ruling body (government, corporation) and its subjects, in which sociobiological traits are programmed from the top down, creating socio-economic environments that place certain constraints on life and reduce the possibility of chance variations. In the latter, 'bio' equates, in practice, to biological or genetic essentialism; in the former, 'bio' refers to biological processes within and between actors (human and non-human) that inform and influence social interactions, subject to change and modification.

The ambivalent biosociality of the traders in Koshi is a reminder of the biopolitical control of Sirius, and the Sirians' failures in sociobiological

engineering. Unlike the engineered workforce on *Planet 8*, which I discuss in Chapter Four, bred to specification for a particular environment and a singular purpose, the residents of Koshi's periphery can inhabit and exhibit different possibilities, depending on the requirements of the immediate context. As a colonial administrator, a bureaucrat whose job is to report back on issues and situations relating to Sirian interests, Ambien II's discomfort in Koshi's old city, where there are 'no gardens' – no (apparent) planning – but a 'low huddling of buildings, crowds of poorly-dressed people, children who I could see were ill-nourished, and an assortment of canines' (SE 134), is not only a discomfort with degeneration or poverty, but with a series of activities over which she has little control, concerning 'the alien, the not-understood' (SE 135). The nationalistic bureaucrat interested in progress displays a kind of naïve ignorance about the biological cost of imperial expansion. Far from the traders she encounters being the anomalous hybrids of transient activities, they make this world work through 'a process of experimentation [rather than] following the right procedures' (Simone 229). Like the Lombis, the residents of Koshi undo, by chance, the planning and regulation of life itself, capturing the processes of experimentation to which they are usually subject and remaking them for their own survival, ambivalent and insecure as such survival is. This example stands as a figurative description of epigenetic poiesis, in distinction to genetic engineering.

## Conclusion

I have read *The Sirian Experiments* as an allegory for the development of Big Science in the Soviet Union, specifically in the realm of Human Adaptability projects in the 1970s. This is connected to a history of thought in Communist Russia based on the notion of environmental conditioning of Soviet political subjects and the optimisation of the workforce; I argued that this can be read into the history of Lysenko's agricultural experiments, his popularity under Stalin, and also in post-Lysenko medical genetics in the Soviet Union. While the Soviet Union was officially anti-racist, I have argued that Lessing draws out the

racialised basis of population studies in ‘remote’ areas of the USSR in her depiction of the Sirians’ experiments on test subjects; the suggestion here is that economic and public health policies based on principles of utility and productivism are still implemented along racialised lines; while there is no ‘negative’ eugenics in the sense of breeding ‘bad’ stock out of the population, the Sirians engage in environmental conditioning for breeding an engineered workforce as a ‘sub-race’.

The Lombi experiment is a failed attempt at eugenic cultivation. However, while the Sirians fail to adapt the Lombis to their requirements, the Lombis nonetheless undergo a form of epigenetic change that prevents their re-capture by Sirian agents, and cancels the possibility of their being put to further use. I introduced the concept of epigenetic poiesis, which I elaborate further in the next chapter. I have also extended this analysis to consider the depiction of biosocial ambivalence in emerging world cities among the groups that construct the city and keep its circulation of goods and labour in motion. This ambivalence creates sites of potential change, and foregrounds my argument in Chapter Four about a vital politics as a strategy of resistance, as well as the discussion of intoxication and contamination in Chapter Five as interruptions to biopolitical governance. In the following chapter, I develop the idea of epigenetic poiesis in a reading of *The Marriages Between Zones Three, Four and Five* (1980), connecting the theme of ambivalence as a psychic state of epigenetic poiesis to a discussion of queer biosociality as a form of resistance to what Michael Warner calls a ‘reprosexual’ ideology in Western modernity.

## EPIGENETIC POIESIS AND QUEER BIOSOCIALITY IN *THE MARRIAGES BETWEEN ZONES THREE, FOUR AND FIVE*

In this chapter, I read *The Marriages Between Zones Three, Four and Five* (1980) as a narrative of queer biosociality that subverts what Michael Warner calls ‘reprosexuality’: ‘the notion that our lives are somehow made more meaningful by being embedded in a narrative of generational succession’ (7). I develop the idea of epigenetic poiesis as a description of literary reconfigurations of social norms and changes in inheritance in response to chance events. In this, it is not only non-human ecology that represents ‘the environment’; rather, ‘the environment’ extends to social conditions for living, both internal and external to individuals. The construction of ‘nature’ as a category in opposition to social life is suspended. Writing across these differentiated forms of experience, *Marriages* does not reduce social habit to biological predisposition in the vein of sociobiology or evolutionary psychology, nor is semiosis depicted ‘more or less entirely in terms of articulate language alone, and talking about the materiality of this language as constructing reality’, in Wendy Wheeler’s words (17). Rather, *Marriages* speculates on a queer possibility for biosemiotic processes of adaptation not reducible to genetic inheritance, making space for a much wider remit of understanding how influence is transmitted, what constitutes it, and how non-genetic influences can be inherited in biological processes. This speculation occurs at an imaginative level, in which object relations between human, nature and survival are reconfigured, and an empirical level, in physical adaptation.

I make this argument about the reconfiguration of inheritance across ‘social’ and ‘biological’ categories of experience through biosemiotic theory, which provides a conceptual framework for developing an account of epigenetic poiesis in literary theory. Thomas A. Sebeok argues that life is semiosis, an ongoing process of signification, based on signs and codes (Sebeok, ‘Foreword’ 1;

Barbieri 29). In this vision, boundaries between ‘social’ and ‘biological’ transformation become less distinguishable when considered under the general category of adaptation: in biology, this refers to the process of change through which an organism becomes better suited to its environment. Biosemiotics theorist Jesper Hoffmeyer writes, ‘Seen from the biology of biosemiotics, a human life does not necessarily start at conception’ (155); rather, the family – with all its cultural and genetic inscriptions, and extended across generational and geographic variation – is biosemiotics’ evolutionary individual. The memory of genetic activation or silencing, or changes in chromatin position that occur during an organism’s lifetime can be passed on through genetic inheritance. Hoffmeyer writes, ‘[E]xperiences appear to us as analogue codings of meaningful parts of our surroundings’ (180). Biosemiotics extracts evolution from the epistemological hold of the Modern Synthesis, in which ‘organisms begin to be treated as black boxes, operated upon by the external forces of mutation and environmental selection’ (Hoffmeyer 174). In place of this, Hoffmeyer suggests ‘an evolutionary history of experiential existence’ derived from studying ‘complex adaptive systems that form dynamic wholes that are not just ‘epiphenomena’, but are capable of exerting causal power over their own components and of exhibiting both formal and final causality’ (174-6).

Previous readings of *Marriages* describe it as a feminist text in the tradition of a power struggle between male and female. In these readings, Al Ith educates Ben Ata about gender equality, and what is at stake is restoring equilibrium across the combined ecosystem of the Zones. Ursula Le Guin describes *Marriages* as ‘a dialectic of marriage’ whose process is ‘Hegelian, struggle and resolution, without the option of a maintained balance’. For Le Guin, this represents ‘so purely European an explanation of human destiny that anyone slightly familiar with other religious or philosophical systems must find it inadequate, if not presumptuous’ (‘Doris Lessing’s Parochial Science Fiction’). Elaine Hoffman Baruch and Marsha Rowe read Al Ith’s world as a feminist utopia, and Elizabeth Maslen reads *Marriages* as a ‘fable developed through the ironies of mutual misunderstanding on all levels into a celebration of emotion and passion and, through these, into a celebration of the need for light and dark,

“daylight selves” and the energy of our “shadow side”, if genuine evolution and growth are to be achieved’ (35). Jayne Glover argues that Al Ith’s ‘understanding of the importance of the relationship between human and animal within an entire ecosystem is [bound to] the lessons she must teach Ben Ata in order to restore balance between Zone Four, as well as the balance between Zone Four and Zone Three’ (126).

These readings restrict the implications of the interaction between Ben Ata and Al Ith to a political logic of top-down influence over social organisation, which suggests that change occurs only by leading through example; in this case, through the experiences of the two archetypal leaders. This logic does not account for the text’s depiction of the biopolitical management of reproduction, genetic inheritance and evolution by ‘the Providers’ (either Canopus or Sirius), nor the queer possibility of Al Ith’s narrative arc. The readings are striking in their commitment to the role of feminist thought as a teaching strategy – enlightened, Wollstonecraft-like women instructing rough beast-men – and thereby valorising and idealising Al Ith as feminist saviour. This diminishes the nuances of her characterisation, and dismisses the ambivalent narrative resolution the text affords her. Reading Al Ith’s influence on Ben Ata as an Oedipal correction of Zone Four through the introduction of paternal responsibility over human and nonhuman subjects, and the tutoring away from non-consensual sexual violence as the primary form of sovereign reproduction, implicitly centres male psychological transformation as the primary narrative of the text. These readings focus on the reformation of Zone Four in response to a fertility crisis, rather than questioning the basis of what Warner calls the ‘repro ideology’ of Western modernity through which self-other relations are modelled.

Warner highlights ‘the way in which modernity models self-other relations, or the way modernity’s consciousness of time is deeply intricated with a reproductive growth economy and its oedipal household’ (Warner 7). It is possible to read Le Guin’s identification of an implicit Hegelian logic of the arranged marriage between Ben Ata and Al Ith as embedding the narrative in a Eurocentric account of historical progress, and the extension of this model to the management of domestic spaces. However, this should be read in the context of

what Warner calls 'the globalization of a new and exacting sexual order', a 'regime of sexuality that first transformed Europe' that 'has now been registered not only in the New World but in all the reaches of modern colonialism' (Warner 7). Interpreting the marriage as a eugenic imperative, administered within a biopolitical framework of imperial governance, I read *Marriages* as a critique of the imposition of European ideals of living on the rest of the world through neo-imperial capitalism. Clare Hanson's identification of profoundly eugenic overtones throughout the novels takes the reading in this direction. Accounting for the depiction of the eugenic management of social relations through capitalist reproduction means also paying attention to Al Ith's deviation from the role of mother, matriarch and wife, into an undetermined sphere of indirect influence.

Through her movement back and forth between Zones Three and Four, the complexity and difficulty of this pregnancy compared to previous ones, and her eventual exile to the borders of Zone Three, Al Ith experiences repeated moments of cognitive estrangement, which I argue leads to the emergence of a queer biosociality. Al Ith's queering incorporates the losses she undergoes throughout the course of the narrative, and the possibilities opened to her as she departs it. Al Ith's queer arc destabilises the biopolitical logic of a heteronormative economy, in which the repressions of heteronormativity are themselves estranged (although not abolished). Glover reads *Marriages* as an ecofeminist text in which Lessing 'seems to propose that there is an intricate web of interrelationships between the earthly or natural, the animal, the human, and ultimately the spiritual' (122). She argues that this ecofeminist perspective 'finds expression [...] most often through the juxtaposing of various dualities – male/female or human/animal [...] that are overturned in the course of the narrative' (122). Following Glover, I also argue that *Marriages* offers a conception of experience across differentiated spheres of activity, problematising the role of the female body as the principle vessel for survival. Rethinking sexuality, and through this, gender relations, also means rethinking what counts as (or is narrated as) 'survival'.



I address the novel's implicit critique of remote biopolitical governance, which takes the form of eugenic instruction similar to the directives issued by Johor in *Shikasta*, and read *Marriages* as a narrative of queering, exploring more fully the refusal of a sustained equilibrium of the kind that Le Guin identifies. The marriage leads to a 'social death' for Al Ith: the cost of species survival in this bioeconomy is post-natal female subjectivity. However, it also – by chance (important for my discussion of epigenetic poiesis) – creates space for the emergence of a queered subjectivity out of these reconstituted social norms. If, according to Warner, 'a nonrepressive gender order can only come about through a radical change in sexuality' (4), then the maintenance of an equilibrium based on reforming or tutoring adolescent masculinity would not be enough to abolish this. Al Ith's ambivalent ending decentres the Oedipal narrative as the primary social relationship of heteronormativity, decentring this and considering it as one particular cultural inheritance within a field of continuous meaning-making, comprised of multiple interactions not restricted to human/non-human or human/nature dualisms.

Situating *Marriages* in a wider context of sf and queer theory, Wendy Pearson's observation of the 'coincidence between the history of sf and the history of modern sexuality' is useful (159). She argues that 'sf can hardly escape the influence of a culture in which epistemologies of sexuality have become so naturalised as to be invisible,' and that 'sf's task, often, is to make visible to us the unthinking assumptions that limit human potentiality' (159). By 'imagining bodies and their possible relationships', sf and queer theory share a common perspective: namely, 'a dystopian view of the present and a utopian hope for the future, a hope that it will be, at the very least, a place where we do not automatically kill what is different' (159). Al Ith's transformation through the novel is from the paradigm of Zone Three to a discarded, value-less remnant of former dominion, replaced in every feminine role by other women, in exile. A wasted body in the realm of biopolitical utility, Al Ith takes on a different role, not recognised as such by either realm: that of queer vanguard, at the margins of empire. By closing the novel with Al Ith's solitary transformation, and her eventual departure, Lessing speculates on a possible future for queering survival,

no longer dependent on biological imperatives, but incorporating non-reproductive forms of biosociality as part of a narrative trajectory leading to adaptation and social change.

### **The Bioeconomy of 'Repro Ideology'**

*Marriages* structures its speculative critique of heteronormative social relations through archetypes of character and place. The fictional realms of Zones Three and Four make up an imaginary world divided into types of social organisation: the feminist utopia (Zone Three), the military dictatorship (Zone Four) and the female-led anarchic 'barbarism' of Zone Five. The borders between the realms might be argued to mark historical borders of civilisation (with Zone Three hundreds of years in Zone Four's future, and so on), but they also reiterate the prevailing theme of uneven development in the series. The narrative begins with the unseen Providers' directive of an arranged marriage between Al Ith and Ben Ata: 'Al Ith was ordered to travel to the territory of Ben Ata, so that the wedding could be accomplished in his land' (M 12), and this can be interpreted as both the attachment of one time-zone to another, as well as an attempt to improve both societies through mutual cooperation (in the guise of forced breeding). The Providers' invisible control resembles Michel Foucault's analogy of power as 'panopticism' in *Discipline and Punish* (1975), 'a system of permanent registration', in which 'power is exercised without division, according to a continuous hierarchical figure, in which each individual is constantly located, examined and distributed among the living beings, the sick and the dead' (196-97). While the border between Zones Three and Four have to this point been closed, the zones are all governed by this invisible power.

On hearing the Order, Al Ith 'believed it to be a joke,' laughing about it with her sister, Murti, before a message arrives 'that could only be regarded as a rebuke' (M 12). Ben Ata, too, does not desire any kind of partnership with Al Ith and Zone Three. He is suspicious of Al Ith and remarks to her that it is said in Zone Four that, 'You are all witches in your country' (M 44), conjuring Al Ith and

Zone Three as superhuman entities, not of the same biological order as Zone Four. Neither desires this marriage, but have no choice but to carry through the orders of the Providers. Meeting for the first time, they share a feeling of complicity in their unwillingness to participate in this arrangement: 'They looked at each other with a frank exchange of complicity: two prisoners who had nothing in common but their incarceration' (M 42). They are trapped together in the Pavilion, a structure 'built to specification' on the orders of the Providers, where they are expected to carry out the task of cross-regional breeding and cross-pollination of influences and resources.

The border is closed for reasons of ideological discord. Zone Three values its post-industrial socialist feminist democracy over and above the militaristic despotism of Zone Four, and its inhabitants do not want to risk cross-contamination. The Zones are described by the Zone Three archivists as 'inimical by nature' (M 12), 'nature' understood not as an arbitrary difference, but an essential one. The imperative of the Providers exposes these differences between kingdoms as arbitrary – and thus vulnerable to change – rather than natural, overriding their respective insistence on the biologised incongruity of the Zones (neither Al Ith nor Ben Ata trust that they can breathe properly in the other's land, and believe they will be poisoned by the air).

Al Ith quickly works out the reason for their marriage: low birth rates across both zones and among different species, an extended failure of biological reproduction that they are tasked with correcting. The horses 'have lost the will to mate' in Zone Three, Al Ith informs Ben Ata, continuing, 'It is all the animals. All. And the birds. And as we know, that means the plant kingdom, too, or if not now, soon' (M 56). This is not a crisis of fertility but of reproductive drive: the horses '*have lost the will*'; this is the opposite of the so-called species survival instinct, negating the neo-Darwinian idea that the driving force of evolution is the will to reproduce and for species survival. This lack of will to reproduce has also affected the human populations – 'there has been a long, steady decrease' in the amount of children being born across the zones, to the extent that for both Al Ith and Ben Ata, 'outlying parts of our Zone are lying derelict' (M 56). This crisis is centred on a general loss of will to sustain the ecosystem.

The crisis makes perceptible complicity between the two zones that passes through the closed political borders, disrupting the biopolitical division of territory. The cross-regional nature of the crisis outlines what Jesper Hoffmeyer calls an 'ecosemiotic interaction structure', which he describes as 'the whole system of semiotic relations that the species finds itself a part of', 'the integrative level between the species and the ecosystem' (196). It is this integrative level that has fallen into decline, with a socially-coded loss of will, rather than a biological incapacity; this biosociality is not restricted to human relations, but encompasses the complexity of ongoing ecological processes occurring between the zones. It is only by perceiving the land this way – as an ecosystem rather than two segregated sovereign territories – that the crisis, in turn, becomes fully perceptible.

Yet Al Ith and Ben Ata's perception of shared complicity in this reproductive crisis initially only serves the Providers. The marriage is the imperial response to this crisis, which from the perspective of Canopus represents a crisis of labour power. For the purposes of this discussion, and following my reading of Johor in *Shikasta*, I read the instruction of the Providers as analogous to the encouragement of reproductive labour in order to ensure the smooth functioning of capitalist imperialism. If, as Silvia Federici has argued, 'Capitalism must control the work of reproduction, as it is a central aspect of the process of accumulation,' and thus that 'reproductive work functions as the reproduction of labour power, i.e. our capacity to work' ('Feminism and Social Reproduction'), then the imperative to reproduce in order to reverse the falling birth rates is an explicitly biopolitical manoeuvre that imprisons Al Ith and Ben into a heteronormative exchange in order to ensure the continued production of biopower and, beyond this, Canopean dominion. In *History of Sexuality, Vol. I*, Foucault describes the 'Victorian regime' which continues to dominate modernity, in which 'nothing that was not ordered in terms of generation or transfigured by it could expect sanction or protection' (3-4). In this regime,

The legitimate and procreative couple laid down the law. The couple imposed itself as model, enforced the norm, safeguarded the truth,

and reserved the right to speak while retaining the principle of secrecy. (3)

This is the governing fiction to which Al Ith and Ben Ata are bound, sexuality confined to the domestic sphere, ‘absorbed [...] into the serious function of reproduction’ (Foucault 3). Federici’s rejoinder to Foucault is that this logic is bound up with capitalist accumulation: ‘The promotion of life-forces turns out to be nothing more than the result of a new concern with the accumulation and reproduction of labour-power’ (*Caliban* 16). The reproductive imperative of the Providers enforces the rhythm of capitalist accumulation of biopower across both Zones, undoing the illusion of progress in a society governed by women. It represents what Federici calls ‘a global expansion of the labour-market [that] is attempting to set back the clock with respect to the anti-colonial struggle, and the struggles of other rebel subjects’ (*Caliban* 17). Lessing makes this subordination of colonised subjects to colonial time literal: Al Ith and Ben Ata’s relationship is punctuated by the drumbeats of the Providers, which determine their movement and activities. In a very literal sense, the drum, audible throughout, determines the rhythm of the fulfilment of heteronormativity, heard until the point that Al Ith returns to Zone Three for the final time.

Federici argues that despite the successes of first- and second-wave feminism, ‘The conquest of the female body is still a precondition for the accumulation of new reproductive technologies that, more than ever, reduce women to wombs’ (*Caliban* 17). This resonates with Gayatri Chakravorty Spivak’s assertion that gendering on the basis of reproductive ability constitutes a primary violence that grounds heteronormative social organisation: ‘the female body is seen as permeable [in] perhaps the most basic gesture of violence’ (26). Accordingly, despite Zone Three’s robust programmes of gender equality in terms of labour division and social relations, their (apparent) feminist utopia is still governed by the biopolitical commands of the Providers, a foil for satellite management. Echoing *Memoirs, Marriages* anticipates that something more than white female leadership is required to undo the Canopean world-system of capitalist patriarchy characterised by Johor, in which women’s bodies are simply

tools at the service of the biological reproduction of labour power. The reproductive imperative of the Providers enforces the rhythm of capitalist accumulation across both Zones, undoing the illusion of progress in the feminist utopia of Zone Three. It represents what Federici calls 'a global expansion of the labour-market [that] is attempting to set back the clock with respect to the anti-colonial struggle, and the struggles of other rebel subjects' (*Caliban* 17).

Al Ith's movement between Zones Three and Four produces a cognitive estrangement from this system, revealing it as a set of protocols, rather than a natural duty. Her movement intercepts the apparent inescapability of this logic, making it 'strange' within the text, as she moves towards a different mode of sociality. At the point of the narrative where the relation between Ben Ata and Al Ith seems to have led to a kind of mutual fulfillment, after Arusi's birth, the drums interrupt to tell Al Ith that she must leave, and that she is no longer required. It is not that this interruption of capitalist labour-time destroys the possibility of 'real' domestic harmony, as Marx argues in *Capital, Vol I*. Rather, it lays bare the false premise and promise of an individualised social sphere as 'leisure time': domestic harmony is portrayed as a mythology deployed to ensure species survival at the level of political economy. While Ben Ata and Al Ith wait for the drum to beat after her departure from Zone Four, 'the drum was silent. No messages came from anywhere', because 'the child, who was after all the heir to two realms, was flourishing in this common household' (M 285). Instead, 'when the drum did beat, it was for Vahshi' (M 285), the female leader of Zone Five, who must now also enter an arranged marriage with Ben Ata. The implementation of these reproductive orders through the drum signals a centralisation and expansion of imperial influence across the zones. The characters forced to be part of this effort are useful only so long as they are capable of reproducing biopower. Al Ith is subalternised through her post-reproductive exile (she loses her social function), going from a position of power and influence to one of stigmatization and exclusion, concomitant with 'the colonial devaluation of female power' (*Caliban* 237) as a change-maker rather than facilitator of an established system upheld by cultural heritage. It is a social

death, through which the Zone Three people cancel out her immediate influence, and her social meaning becomes fixed in archive.

Al Ith can be read through Federici's vision of a revalorisation of the body in feminist thought, a post-essentialist turn to materiality and subjectivity, necessary 'to counter the negativity attached to the identification of femininity with corporeality, and to create a more holistic vision of what it means to be a human being' (*Caliban* 15). While this is not a biological claim, Federici's argument is nonetheless in a relationship with biological thought, moving away from the abstraction of life itself into the realm of pure discourse (this is also Eugene Thacker's critique of post-structuralist accounts of life itself). As Federici notes, had Foucault studied the witch-hunt instead of the pastoral confession in *History of Sexuality*, he would have learned that 'such history cannot be written from the viewpoint of a universal, abstract, a-sexual subject'; instead, 'he would have recognized that torture and death can be placed *at the service* of "life" or, better, at the service of the production of labour-power, since the goal of capitalist society is to transform life into the capacity to work and "dead labour"' (*Caliban* 16; italics mine). What is important here is not Foucault's failure to situate his theory of biopower in the context of capitalist development, in which – Federici writes – 'the promotion of life-forces turns out to be nothing more than the result of a new concern with the accumulation and reproduction of labour-power' (16), but Foucault's neglect to account for the cost of this with regard to women. Without this, the specific repressive violence against bodies socialised as female is obscured.

### **Bioeconomy in Zones Three and Four: Inheritance and Environment**

Zone Three and Zone Four represent archetypal paradigms for either side of the 'nature/nurture' debate – genetic reductionism and cultural environmentalism respectively. As I have argued in Chapters One and Two, the historical relevance

of this debate takes on political significance in Cold War science debates between the Soviet Union and the Euro-US. Zone Four operates as an archetype of a patriarchal order that reduces 'influence' to a purely genetic paradigm. In Zone Four, the only relation that biological male parents bear towards their children is one of genetic goods and – if the child is male – as the child's future military commander. Ben Ata notes this while surveying his armies, picking out sons he may or may not have fathered in a row of soldiers:

He had been quite proud of the Children's Army, in which his own offspring had been placed together with those of his officers. He would often, on parades, or on similar occasions, allow his eye to sweep over those young faces, and try to pick out some that resembled him. He expected these boys – some of them young men now and in every way fulfilling expectations – to become ornaments to his armies. (M 203)

In this military fratriarchy, children are objects for circulation, either for the reproduction of military power, or for the labour of reproducing these objects of labour power. This is an inheritance of paternal disinterest which, until Al Ith's arrival in Zone Four, he has had no reason to question: 'He had done and behaved as he had always done, and as his father had, and his father' (204). Passed down with the biological inheritance is a social genealogy in which biological fathers are not expected to take care of their children and, more broadly, where authority and governance equates only to the assembling and dispatching of militia to protect or expand the borders of the realm.

Having little or no contact with the children born out of his rapes of women across Zone Four, Ben Ata reduces paternal responsibility to biological idea of 'fathering' or 'siring'. This comes out in his first conversation with Al Ith, when she explains that 'adoption' is not a word in Zone Three, and that while she has given birth to five children, she is 'the mother of many. More than fifty' (M 45). In response to this, Ben Ata says, 'I suppose you feel about them exactly as you do about your own' (M 45), and while the question appears rhetorical – 'this was



mimicry' (M 45) – this can be read as an attempt by Ben Ata to understand this new idea of parenting and nurture. That 'adoption' is not a word used by Al Ith reconfigures the idea of children as property of their biological antecedents. He talks about both children and mothers in possessive terms: 'It's not my idea of a mother for *my* children' (M 46). The repetition of 'my' here places Ben Ata's agency and decision-making at the centre of the conversation, and relegates the other nouns – 'mother' and 'children' to a subordinate position. Moreover, he has had no cause to question this social organisation, because he has inherited this disinterest. In Zone Four, lineage descends, confined to genetic material and restricted to the territorial limits of the kingdom. There is a valence here in which ideology is extended across social and biological organisation, tied together through the social arrangement of biological property, and the absence of paternal influence after conception.

To return to the biosemiotic framework outlined previously, Hoffmeyer would contest Ben Ata's reduction of paternal influence to genetic contribution; that is, as a purely material transmission. Hoffmeyer argues that 'virtuality' should be understood as something 'real' in the world, 'built into life from the beginning, and overcoming the idea that a life is fundamentally non-living' (176). This would negate the idea of biological programming as the core determination of living, and the suggestion that life forms are only passive, pre-programmed representations of immutable substance of inheritance: what has been understood up until recently as the 'code of life' passed on through DNA replication. 'Living' here would mean active, in flux, with agency and determining power, not with regard to technological intervention, but in terms of responsivity and adaptation across different levels of experience.

In their thesis of four evolutionary dimensions, Jablonka and Lamb describe this heritable responsivity as a different kind of inheritance system involved in evolution. They argue, 'Not everything inherited is genetic': rather, behavioural, epigenetic and symbolic can have both 'direct and indirect influences on evolutionary change' (107). This line of thinking would take post-Synthesis evolutionary theory away from a 'gene-centred approach, because it is no longer necessary to attribute the adaptive evolution of every biological structure and

activity, including human behaviour, to the selection of chance genetic variations that are blind to function' (2), as in Richard Dawkins's *The Blind Watchmaker* (1986). Inheritance would not be constituted by the passive transmission of what Dawkins, in *The Selfish Gene* (1976), calls cultural 'memes', units of information in the brain that take the physical form of neural circuits, which are passed on through a competitive system of exchange, where memes fight each other for dominance in the collective psyche, a model of symbolic transmission which looks suspiciously like advertising in a system of technologised mass reproduction. In accord with Charles Sanders Peirce's triadic theory of semiosis in which any event of signification involves a triadic relation between sign and object in which the sign is mediated by an 'interpretant' (also a sign), Jablonka and Lamb argue that signs 'become symbols by virtue of being a part of a system in which their meaning is dependent *both* on the relations they have to the way objects and actions in the world are experienced by humans, and the relations they have to other signs in the cultural system' (200). This understanding works across to epigenetic events during development, which occur through interactions between the genome and its surrounding environments. Epigenetics would re-cast the genome from master programmer, to what Evelyn Fox Keller calls a 'responsive organ' ('From Gene Action').

The issue of adoption introduces another dimension into the semiotic operation of reproduction in Zones Three and Four: the question of biological and environmental influences over development. For Ben Ata, the line between the two is clear, the former suggesting paternal possession and maternal care, the latter secondary or even unimportant. Social structures for child welfare that extend beyond the nuclear family have little relevance in Zone Four. By contrast, in Zone Three there is understanding of epigenetic influences on embryonic and post-natal development. Encountering Yori, a Zone Three agriculturalist, Al Ith considers the possibility that she may already be pregnant after Ben Ata's two rapes, and how different her pregnancy would be in Zone Three:

When she had been pregnant – and after what care, and thought,  
and long careful choices – in the past, she had, as soon as she had

been sure, chosen as beneficial influences for the child, several men who, knowing why they were chosen, and for what purpose, co-operated with her in this act of blessing and gracing the foetus [...] They were the Fathers of the children just as much as the Gene-Fathers were. These men formed a group who, with the Gene-Mother, and the women who cared for the child, considered themselves joint-parents, forever available to her, or him, any time they were needed, collectively and individually (M 72).

The ritual of choosing ‘beneficial influences’ for the developing foetus appears as a folkloric understanding of pregnancy. Yet the idea of different kinds of parents having a direct influence on foetal development resonates with the theory of embryonic development in epigenetics. The embryologist C. H. Waddington’s case study for his ‘epigenetic landscape’ model (1957) looked at the different developmental pathways open to a cell during embryonic development, in an attempt to synthesize genetics, embryology and evolution. Concerned with developmental mediation in the conversion of genotype into phenotype, Waddington was interested in a process-based approach to biology, taking events, rather than objects, as his primary point of departure. Waddington’s method assumes developmental interactions between gene and environment (a distinction he found suspicious), and the influence of these interactions on development. While Al Ith does not use this language, her description of embryonic and foetal development in Zone Three – the idea that the child in her womb might be ‘fed by [Yori’s] essences,’ ‘hear his words and be nourished’ (M 72) – implies that this process is in flux, open to external stimuli, and that events outside uterus might affect the growing child.

This understanding of a child’s development is coded between Al Ith and Ben Ata into a conversation about male and female gender roles. Al Ith explains that while women rule Zone Three, men bake, and farm, and herd, and grow, and trade and mine and smelt and everything there is to do with the different ways of feeding children, mentally and emotionally, and the keeping of archives and maintaining Memory and making songs and tales’; Ben Ata replies, ‘All that

is women's work' (M 125). Ben Ata's understanding that cultural memory and development are the task of women, given that his is a society in which the most socially-valued tasks are distributed among men, carries the assumption that this work is secondary to the inheritance passed on via male insemination; the archive on which he places most value is his own genetic inheritance, with endless military campaigns for securing borders a way of ensuring its continued influence. This plays out in his jealousy of Kunzor, Al Ith's Zone Three 'husband', whom he assumes – 'defensively' – to be 'a finer fellow than me in every way possible' (M 126). Ben Ata here is thinking about (genetic) influence as a competition, the battle to win the struggle of natural selection of his own gene products against those of other males. His understanding of reproduction is tied to his military pursuits: reproduction is a battle between men for the right to inseminate the female body.

This socially-constituted refusal of paternal post-natal influence is depicted as having – for Al Ith – negative implications in terms of the child's development, as Al Ith attempts to explain to Ben Ata after their child, Arusi, is born. She tells Ben Ata, 'with us [...] the child's fathers are present to greet the child. To.... To feed him...' (M 208). Yet Ben Ata cannot get past the phrase 'child's fathers', because of the genetic paradigm of parenthood in Zone Four. Al Ith is not talking about feeding in terms of milk or food – 'not with milk', but with 'other foods' (M 209). She tells Ben Ata to hold Arusi, to 'think of him' and to 'make him know you are there, *with* him' (M 210). This non-verbal communication between parent and child constitutes a form of nourishment, for both Al Ith and the child – she is 'restored, because at last Arusi was being nourished by his father' (M 210). Moreover, in her Zone, this nourishment would not just be from Ben Ata, but from a number of different influences.

This scene of feeding between Al Ith, Ben Ata and Arusi can be read in this way. It is not that Ben Ata does not understand the value of emotional care; rather, in Zone Four, this care is assigned to women. Maternal love-as-labour is assumed by the menfolk, rather than shared. In Zone Four, children are the possessions of their parents. Returning to his ostensibly rhetorical question to Al Ith – 'I suppose you feel about [your adopted children] exactly as you do about

your own' (M 46) – this signals both the possession of children on the basis of biological inheritance, as well as the gendered division of emotional labour. Thus, despite the implication of mockery, Ben Ata's question is not rhetorical, given that he has no experience with his own children, whose number and existence he only assumes. He expects mothers to have strong ties to their children, but does not know if he should expect the same from Al Ith.

The importance of this nourishment supports what Wheeler describes as 'a good materialist argument about the nature of human sociality', which takes into account 'the fundamentally social nature of human existence'; she argues that 'our fundamental sociality [...] is lived in our inner, as well as outer, world; and it is emotional as well as physical; and all this – our essential social being – is written on our bodies in terms of flourishing or (its opposite) illness' (Wheeler 12). Al Ith understands that there is a fluidity of signification between her and her child, both physical and emotional. Despite the social pressure placed on her to nurture Arusi physically, she knows that certain psychological barriers would prevent her from giving him the kind of care he needs. Waiting, 'rocked by all kinds of emotions', for Ben Ata to come to see the child, she is urged by Dabeeb 'to put the child to her breast, poor lamb'; Al Ith refuses, because 'to feed the baby now would be to feed it annoyance and need' (M 201). This is an important confrontation between two forms of maternal care. Dabeeb's instinct is that Al Ith should put the physical needs of her child above her own distress, thus sublimating herself and taking the position of sole caregiver. Al Ith's refusal to do this is a political decision – refusing the ethic of care to be placed primarily and irredeemably on the birth-giving body, and refusing to be seen as merely a 'channel or a vessel' for Ben Ata's son (M 193).

This refusal is based on the material reality of Al Ith transmitting her emotional state to her baby through the act of feeding, signalling her understanding of the porous boundary between emotional and physical states of being. Dabeeb makes a classic mind-body distinction in urging Al Ith to feed Arusi, in which two needs co-exist but are not in accord: Al Ith is upset and needs Ben Ata to come home, and Arusi needs feeding. Al Ith sees these two needs in a valence; her need of Ben Ata and the attending feelings of deprivation

and loss will be fed into her child. The pain she feels at this moment, she knows, will ‘poison the baby, who was not only deprived of the food of his father’s presence, but would be additionally ill-influenced by herself’ (206). The political refusal to put the needs of her child above her own pain is then premised on the idea that to do this would only continue the damage and pain of the present moment. Thus, the nourishment that she would pass to Arusi at this moment is not a purely material inheritance, but constitutes – following Wheeler – the material effect of this non-verbal interaction. Dabeeb’s construction of the relation between Al Ith and Arusi being one of total giving and total receipt from one generation to another is displaced; rather than two individuals co-existing with different needs, Al Ith’s refusal articulates an environmental relation between these two needs, and the dialogue between the human inner world – *Innenwelt* – and the human natural and social outer world – *Umwelt*.<sup>9</sup> She is paying attention to what Wheeler calls ‘the triggers and perturbations between complex coupled systems’ (Wheeler 108), rather than assuming a direct transmission of information between parent and child. This does not negate parental responsibility, but opens it up to a system of influences and obligations. The pain that Al Ith would transmit to Arusi would be the genealogical inheritance of a patriarchal social sphere in which emotional labour of care forms female subjectivity. This means resisting the genealogical genetic paradigm that determines paternal relations in Zone Four.

### **Semiotic Adaptation and Reproduction**

Al Ith’s adjustment to what I identify as a queer biosociality is made possible through the reconfiguration of sign relations across both zones that goes on from the moment Al Ith meets representatives from Zone Four. The negotiation between Al Ith and Ben Ata throughout the narrative is centred on signs and

---

<sup>9</sup> A ‘world’, or what Jacob von Uexkull calls an *Umwelt*: in Thomas A. Sebeok’s words, ‘the biological foundations that lie at the very epicentre of the study of both communication and signification in the human [and non-human] animal’ (Sebeok x).

signification; as such, I read it as a narrative of semiotic adaptation, staging the adaptation of common sense understandings of various signifiers. Al Ith and Ben Ata begin the novel as archetypal representatives for their respective zones. In a Peircean sense, they are ‘icons’, and their semiotic economies function iconographically – that is, the relationship between sign and object is assumed to a ‘natural’ representation based on resemblance or signified truth. Ben Ata knows what he means when he says, ‘woman’, and Al Ith knows what she means by ‘love’. In Zone Four, a horse is a mode of transport; in Zone Three, a companion. In Zone Four, sex is for male pleasure and female fertilisation, and rape is a necessary task for maintaining fratriarchal governance; in Zone Three, reproductive labour is distributed between groups of men and women, not only a task for the female body, but shared out in an understanding of embryonic development that extends the male role well past the point of conception. The novel puts the symbol (here, sign) of reproduction to work across these semiotic economies, drawing into this movement questions of gender and heteronormativity at a social level, and genetic and developmental influences at a biological one; ‘learning’ extends beyond subjectivity into multi-regional interpretation, which – in Jesper Hoffmeyer’s words – ‘leads to a change in the disposition of the organism for a different behaviour’ (459). Through the marriage of Ben Ata and Al Ith, distinct symbolic constructions of reproduction in individual zones conflict as the protagonists negotiate the process, from heteronormative intercourse, to foetal development, to birth, to child-care. This negotiation does not imply a transformational movement, but an adaptive one; some ‘things’ are lost in the process of trial and error in adaptation.

Al Ith and Ben Ata’s communication frequently results in moments of ‘runaway’ or ‘disequilibrium’, which leads to the alteration of certain grounding assumptions about sociality. Semiotic adaptation involves the production and interpretation of signs at crossing-points of differentiated semiotic economies (discrete systems of managed sign relations). These crossing-points are marked by events of signification that produce moments of what psychoanalyst Gregory Bateson calls ‘runaway’ in his theory of schizophrenia (316), and what philosopher-chemist Isabelle Stengers, in a discussion of entropy, calls ‘far-

from-equilibrium' (244). In this adaptive operation, some 'thing' – not unit or calculable component – tends to escape, given that this operation necessitates conflict. Furthermore, the change induced is not necessarily quantitative, and economies run the risk of falling back into their former states. Bateson argues that adaptation is not an efficient economy, but involves trial and error, and 'error is always biologically and/or psychically expensive' (274). In his theory of schizophrenia, 'runaway' may be induced when the interaction of two codes come into conflict, analogic and digital, throwing a subject out of equilibrium. Bateson describes this as 'a patient's failure to recognize the metaphoric nature of his fantasies,' when what is usually a triadic constellation of messages (for example, 'as if' as an interpretive phrase) is understood to be direct and 'natural,' and 'the metaphor of the fantasy is narrated and acted upon in a way which would be appropriate if the fantasy were a message of the more direct kind' (190). That is, when metaphor is received empirically. This moment can result in destruction, but it can result in a reconfiguration of the system. This arrives at stochism, rather than determinism, as a mode of adaptation: stochastic change that occurs at the borders of different regions.

The examples that constitute Bateson's theory of schizophrenia are genetic mutation, learning, and change in family organization; important here is the idea of change occurring at epistemological boundary points, the confrontation of (bio)semiotic economies. This idea of change ruptures the supposition of the internal cohesion or sovereignty of these economies, and the 'self-identity' of their signification. In a discussion of entropy, Stengers understands far-from-equilibrium as a moment of radical possibility, in which 'the very identity of the system can be transformed' (244), producing a 'new configuration of requirements and obligations' that make up a system's 'self-organization' (245). In semiotic terms, this transformation necessitates some unforeseeable loss of meaning, as regional significance falls into disuse. These two moments, as the interplay of dyadic and triadic semiotic constellations risking loss, mark a site of adaptation.

Al Ith's explanations of Zone Three habits in Zone Four are not a continuation of Zone Three governance, but emerge as a reflex. She is



establishing norms of living in a different context, forcing a confrontation between two forms of social organisation that necessarily leads to negotiations on both sides. Many of Ben Ata and Al Ith's interactions come under the category of what Thomas Szasz calls 'protolanguage', and Stephen Shapiro and Philip Barnard call 'semi-peripheral speech'. These forms of speech take place because the symbolic realm of communication is no longer open to them as it is to other inhabitants of their respective realms. For Szasz, protolanguage comes before metalanguage – or 'signs referring to signs' – a juncture of semiotic configuration that 'communicates outside of, or in retreat from, symbolic language' (Shapiro and Barnard 106). Szasz argues that protolanguage often appears in the realm of psychoanalysis as a communication of 'problems in living', and 'functions similarly to the mode of communication or expression involved in self-cutting'; self-cutting is a two-fold means of communication in which the subject begins to question their status as living being (the pain of the cut communicating existence to the subject), and which allows the cause of trauma to be displaced and communicated outwards (Shapiro and Barnard 107). For Szasz, pragmatic speech is 'language used to establish interpersonal relations, without reference to a statement's verifiability' (Shapiro and Barnard 108). It is language used to establish (although not maintain) social relations.

For Shapiro and Barnard, 'a protolanguage approach looks for the ways in which the ritual makes new kinds of social relations possible' (112). I want to look at this idea with regard to the ritual of rape in Zone Four as the primary mode of sexual reproduction. The biopolitical instructions of the Providers administer no accompanying guidelines for sexual conduct in this partnership, forcing a negotiation between Al Ith and Ben Ata on the form and possibilities of sexual intercourse. The first conversation between the two rulers is on the subject of child-raising and sex, and concludes with Ben Ata raping her. This moment marks a moment of runaway, of disequilibrium, and the establishment of a different kind of social relationship for both characters. For Ben Ata, the rape itself does not constitute a break with protocol (according to the rules of Zone Four, it is a commonplace task for men). Rather, it is Al Ith's assertion, 'There is more to mating than children,' which introduces a novel notion – and

thus an epistemological rupture – in Zone Four, and a struggle within Ben Ata (M 46). Ben Ata's sexual experience has up to this point been limited to wartime rapes, in which 'those who wept or who struggled in a way he recognized he did enjoy, and began to tame slowly' (M 45). Male-female sexual communication, for Ben Ata, is limited to reading the different degrees of the struggles and weeping of women. In response to Al Ith, he 'groaned out loud and struck his fists hard on the floor beside him' (M 46). Al Ith's further suggestion that sex is a 'skill' in her Zone marks a tipping point. The rape is a retroactive 'task' for Ben Ata, implied to function as such by ritualized conduct: 'He put his hand over her mouth in the approved way' (M 47), a censorship of female sexual license in response to its verbal articulation. While this moment marks a rupture, neither Al Ith nor Ben Ata have yet broken character; both are behaving according to their respective regional rules and roles.

Yet, this scene also marks a change in Ben Ata immediately following the rape: '[A]lready embarrassed, [he] showed his feeling that all was not right by a gesture of concern most unusual in him: he twitched her dress down again and removed his hand from her mouth quite gently' (M 47). Al Ith's gaze is described as 'quite blank'. Focalising the narrative through Ben Ata's gaze, the reader is shown how he perceives her, transforming this moment from one of following protocol to one of observation. His 'embarrassment' marks a moment of translation, and his loss of composure signifies a break from the status quo. Her expression, converted into an empty space, signifying his active negation of her assertion, his attempt to instruct her that there is no more to mating than children, and that 'she' – the fertile female body permeable for male penetration and insemination – functions as an open blank for Zone Four's male task of female censorship and the female task of reproductive labour. Ben Ata's gesture of concern and Al Ith's blank gaze signal a moment of runaway, directed toward trauma or grief, the first rupture to their respective symbolic orders. In Szasz's terms, this is a form of protolanguage that establishes a different social relation.

If Ben Ata's second rape is read as a repetition, then the runaway moment of the first rape has had no effect on the significance Ben Ata attaches to the female body. Yet, after he rapes Al Ith a second time, his embarrassment is

replaced by shame and grief, marking the difficulty of his learning from Al Ith, and, simultaneously, the gradual loss of his previous symbolic configuration of sexual activity:

Her ways seemed too difficult for him, or at least unfamiliar, or out of his reach just then. And his were striking him as crude ... he could only complete the entry and the possession by taking a furtive glance at the bruise he had inflicted, and this itself now shamed him so that as he spurted he groaned and then lay still. He was filled, amazingly, with grief. (M 62)

This act is not a simple repetition of the first; its significance has altered. Ben Ata now sees that Al Ith's eyes are not only 'open' but also 'desolate', an observation that had not occurred to him during the struggles and weeping of the women he has previously raped; he understood those previous struggles only as sexually provocative and therefore as invitations for him to 'tame' them. The point of orgasm in this second scene of rape – a 'spurt' that carries with it the possibility of insemination – carries with it 'shame' and 'grief'. Significantly, this shame is produced by the fact of finding the bruise he has inflicted sexually arousing. The bruise on Al Ith's face reflects male domination over the female body, while marking Ben Ata's orgasm with shame and grief; 'he' is split into a general social economy of male violence directed against unconsenting female bodies, and 'Ben Ata' in a particular encounter with 'Al Ith'.

Something has changed between these two scenes of rape, which, while materially identical, carry different significance. Between these two scenes, Al Ith's blue dress functions as an interpreting sign, negotiating Ben Ata's encounters of 'Al Ith' as character whom he has a duty to host as fellow sovereign, and a universal female body that he is used to dominating and subjugating. At first, he is offended by her choice of dress, finding it un-arousing; female dress in Zone Four is for the purpose of facilitating male sexual excitement, the obligatory costume for a blank body that either struggles, weeps, or bears children. Ben Ata's "gesture of concern" is transmitted through negotiating this

symbol of female permeability: he twitches down Al Ith's blue dress, covering her back up, an acknowledgement that the dress might function not only as a tool of male arousal, but also of female protection. If lifting up the dress is only a confirmation or completion of its signifying function, Ben Ata's gesture of twitching it back down extends and reconfigures its purpose.

The dress appears again when Al Ith makes an assertion about the 'general damp' of Zone Four's climate:

'Oh, come now, it isn't as bad as that,' he said. 'You'll see, when the sun is up, and things have dried off. We have some very pleasant days down here, you know.'

'I hope so! Feel my dress, Ben Ata!'

But this invitation put them back again. It was certainly not coquetry, and to be invited to feel her dress for any other reason affronted him. He took a fold of the dark blue stuff between thumb and finger, and pronounced it damp. (M 57)

Ben Ata is right to assume that Al Ith's request is not a sexual invitation, but it is a sexual instruction. If female dress signs for male arousal in Zone Four, where female body and dress are interchangeable, both objects for male pleasure, then Al Ith is drawing attention to the possibility of female arousal. The 'general damp' of Zone Four and the 'damp' of Al Ith's dress are drawn together, and the labial anatomy is mapped onto the 'fold' of the dress. Ben Ata's touch both mimics and moves the autoerotic touch of the first rape scene (where he 'fingered himself to see if he was up to it' (M 47)) to responding positively to her request that he touch 'her'. The drawing together of two sites of dampness might also sign for an already-present female sexuality in Zone Four. Drawn into a relation with the "general damp" of Zone Four, the dress functions as an instruction to Ben Ata about immanent possibilities of female sexual arousal in Zone Four. It is, however, a purely physiological instruction about sexual potential; the invitation from Al Ith is yet to arrive. Indeed, the women of Zone Four use coquetry as an informal barter system extended beyond institutionalized prostitution; in the

secret song festival, fearful of censorship, the women – wives – sing, ‘I’ll make him hunger, / And languish and anger, // And give me his pay, / A corporal’s pay’ (132-33).

Al Ith’s instruction of Ben Ata is not just a correction of Oedipus, but a tutoring away from unconsensual sexual violence as the primary reproductive performance of Zone Four. The Oedipus correction would limit the adaptation at work in Zone Four to the transition from fratriarchy to patriarchy, or son to father. There is more at stake – namely, the figure of wife, mother and sister: the vessels of reproduction and the primary labourers of child-care.

### **Zone Three as Spencerian Utopia**

The speculative genre is deployed on one level to present a kind of time-travel between societies at different stages of development, but, more importantly for reading the novel as a queer text, is also used to stage moments of estrangement as Al Ith travels back and forth between the regions. From Al Ith and Ben Ata’s perspective, Al Ith’s tutoring of Ben Ata signals a hierarchical tree of civilised behaviour between Zones Three and Four. However, from a narrative point of view, and attending to Al Ith’s various moments of crisis and eventual exile, Al Ith’s narrative is not restricted to a utopian socialist telos of female emancipation. The narrative moves from focusing on Ben Ata’s change in perspective concerning women to exploring the possibilities rendered through Al Ith’s discovery – not wholly welcomed by her – of the spontaneous and complex verbal ‘poison’ within her, and what to her seems like excessive neediness and dependence that some of her encounters with Ben Ata draw out in her. It is not that Zone Three has reached a perfect state of social relations, but rather that it has settled into stasis of repeated cultural inheritance. Indeed, by creating Zone Three as the realisation of a 1960s and 70s Euro-US ideal of female leadership and equal gender relations, Lessing questions whether this in itself would be enough to keep society going, and whether the cost of protecting this equality would risk a society running into stasis, as Zone Three does.

Glover and Maslen read Al Ith as the harbinger of knowledge of ecological awareness, but these interpretations circumvent the narrative's more critical exploration of Zone Three. Settling on this narrative would leave the relation between Zone Three and Zone Four in a civilized-barbarian paradigm (indeed, Al Ith uses the word 'barbaric' to describe Ben Ata and the men of Zone Four a number of times), with Al Ith cast as a Zone Three missionary sent to reform a barbarian region. However, with regard to its critique of imperialism, this is not a settler narrative, but a biopolitical one. The arranged marriage is a different cultural figure to the civilizing mission, based on the idea in evolutionary theory of fitness derived from exogamous relations. Through it, the Providers are ensuring the continued production of genetically useful colonized subjects, just as Johor/George undertakes missions on Shikasta to find genetically useful peoples to crossbreed.

Rather than reading Zone Three as a feminist utopia to which Zone Four must aspire, Zone Three can be read instead as a Spencerian utopia that follows Herbert Spencer's principle that social progress could be equated with biological evolution, and that both are teleological. Al Ith's task in Zone Four can be read as neo-colonial, in that it is for the purpose of encouraging the exchange of resources across developed countries. Her descriptions of Zone Four bear a strong resemblance to First World intervention in Third World nations. Al Ith notices the destitution of Zone Four repeatedly: she thinks of it as a 'graceless and impoverished land' (190), and sees that 'everywhere had the same stamp of on the edge of poverty (189). The society of Zone Three operates through a fixed cultural inheritance through which a certain moral standard of collective living is upheld, echoing Spencer's notion that there is an innate morality that might be worked towards through progressive adaptation; in J. D. Y. Peel's words, this is 'evolution in a popular, teleological form' (in Spencer xxi). Peel writes that Spencer 'naturalise[s]' society and suggests that it is governed by principles of growth, valid independently of the wills of men, which should never, and ultimately *can* never, be disrupted by interventionary actions' (cited in Spencer xxv). If Spencer is writing in the context of an industrialised free market, Zone Three can be read as representing this developmental, anti-statist theory of

evolutionary change in a post-industrial age, a society living off accumulated wealth, having returned to an agrarian economy.

Al Ith's entrance into Zone Four makes her realise for the first time the constituted bonds which govern Zone Three's social relations, and transforms these bonds from 'natural' ones to conventional ones. For the first time, she is required to articulate protocols of care that in Zone Three are taken simply as truth. Moreover, her awareness of the effects of emotional as well as physical nourishment on Arusi is still based on a model of inheritance as more or less linear and chronological. This does not undo the assumed responsibility of elder generations to preserve and pass on established protocols to the younger ones. While Al Ith's refusal to feed her child the 'poison' of her inner pain resists Zone Four's model of mothers as primary care-givers by acknowledging a broader ecology of care, she retains the supremacy of parent-child influence, resisting instead – and throughout the novel – the idea of her own adaptation. While she resists the unchecked or careless transmission from mother to son, as well as the positioning of mother as the primary caregiver, the end-goal of her interactions with Arusi is still the transmission of an established cultural inheritance. It is this that she has to articulate.

Placing Zone Three in a hierarchical relation to Zone Four, Rowe describes Al Ith's Zone as 'a feminised world, one in which women are independent and men do women's work' (cited in Taylor 155). But, as she is quick to imply, a reading of *Marriages* as a feminist instruction manual on correcting male psychoses would disappoint; Rowe finds the narrative focus on female dress and heteronormative sexual relations not sufficiently politically feminist. Rowe argues that Zone Three is a utopia in the vein of William Morris in *News From Nowhere* (1890), 'a steady expression of the longing for a society of equality of conditions' (Rowe 158). Rowe reads *Marriages* as a fable of transformation – the gradual progress across the Zones to the kind of society described by Morris.

Rowe's reading aligns with what Joseph Fracchia and Richard Lewontin call 'transformational theories of cultural evolution,' which reduce cultural and historical change to the mechanism of evolution derived from the Modern

Synthesis (66). As a historical paradigm, the 'transformational' theory reads as a justification for colonialism, in which 'more advanced cultures will spread and replace the less advanced when they come into contact' (66). The biological paradigm is devolved from this historical model: in transformational theories, evolution is theorized as a directional and calculable 'unfolding process [in which] the possibility of each successive transformation is dependent on the completion of a previous step of transformation to provide the initial state for the next change' (61-2). If Al Ith represents a member of a more civilised society based on 'advanced' sexual and parental relations, then the story of Al Ith and Ben Ata is a simple teleological narrative of social transformation, where Zone Four becomes more like Zone Three, and Zone Three can now set its sights on becoming more like Zone Two. Rowe's reading is then, a teleological interpretation of the text, which would bracket Al Ith's change and eventual exile as the loss incurred through the effort involved in social transformation.

This reading does not allow for the radically different kinds of experience-systems in Zones Two, Three and Four, which have specific kinds of sociality that – when read in an anti-hierarchical relation to each other – exhibit different kinds of attributes and energies for change, as well as its opposite. Rather than reading Zone Three feminist utopia, I read Zone Three as instead a utopia aligned with Herbert Spencer's vision of – in J. D. Y. Peel's words – 'human history as one long process of man's "adaptation" to the prerequisites of a perfect social life, when all men could be free because all would be altruistic' (Spencer xx). This reading allows us to be more attentive to the difficulty within Zone Three of breaking from its established norms of behaviour and speech. Nor is this 'mystical marriage' between Al Ith and Ben Ata 'an allegory of Being', a 'fusion of opposites further[ing] the emotional and psychic growth of consciousness in both personal and social contexts', an 'esoteric ascent toward wisdom' through competing and contradictory forces, as Roberta Rubenstein has argued (61).

The governance of Zone Three is led by an understanding of phenotypic plasticity and epigenetic forms of adaptation, but this has resulted in a static and stagnant social sphere of environmental conditioning, in which cultural



memory is rigidly maintained, and there is no spontaneity or possibility of radical change. While Al Ith transmits epigenetic knowledge to Ben Ata, there has been no need in her zone to make these arguments before, or to have to intervene directly in decisions about the possible absence of influences during its development: 'Her children, in the past – those she had borne personally – were viewed more as a summing up or a confluence of influences and heritage' (M 192). These influences are fixed and stable, passed on through environmental conditioning via 'methods of artificial selection and psycho-physical training' (M 192).

The narrator – a Zone Three archivist and one of Al Ith's 'mind fathers' – admits this conditioning has resulted in a 'general malaise, or stagnation, in Zone Three (but such a word was hard to use in our beautiful land,' and 'our songs, our stories, had not changed for a very long time' (M 175). The Zone Three festivals are 'very beautiful', with a 'rich rolling *plumpness* about them', 'reassuring', but there 'was no sting or surprise there. No moments of shock. They did not stimulate' (M 175). Without interruption, the system of symbolic, genetic, behavioural and epigenetic inheritance has run into a 'positive feedback loop', where the repetition of the same message has led the stability of this system into disequilibrium. The low birth rates of Zone Three – a result of endogamous reproduction among isolated populations – are symptoms of this disequilibrium. Zone Three's environmental determinism has led the system into 'far-from-equilibrium', and a need for adaptation and variation to alter the fixed and stable influences and heritage.

Zone Three's xenophobia and resistance to change becomes clear when Dabeeb – now permitted freedom of movement by her husband – leads a diplomatic mission to Zone Three to find Al Ith with a group of women from Zone Four. The archivist reports: 'Everything about them was condemned, and this reflected badly on Al Ith' (M 282). Al Ith is alienated by her former people, and undergoes exile as a form of punishment. Her sister Murti attempts to quarantine Al Ith's changed significance, now that Al Ith is no longer 'our Al Ith,' in Murti's words (294). She wants to prevent Al Ith from 'creating disorder,' a phrase that Murti cannot articulate in a conversation with Ben Ata; he must

supply it for her (M 292). Zone Four has within it the knowledge or cultural memory of disorder, whereas Zone Three does not have the resources to cope with any kind of imbalance. Murti, observing Al Ith's 'runaway' from a position of assumed semiotic stability, does not yet have the words to describe the changes already at work in Zone Three, not least in the flexibility between borders.

In Al Ith's absence and under the reign of Murti, Zone Three has brought the fascistic undercurrent of its doctrine of social perfectibility to the centre stage of its governance. Murti has no interest in incorporating Al Ith's changed state into the governing protocols of Zone Three, and instead banishes her to the far reaches of the Zone, for the sake of maintaining regional equilibrium. A younger sibling, in accordance with the lineage model of genealogical governance, has simply replaced Al Ith's previous function. Her exile represents the exclusionary violence necessary for upholding this tightly ordered regime. In Zone Four, Dabeeb thinks that Al Ith is 'being punished' (M 284) for her relationship with Ben Ata, but this is not the case; rather, according to the protocols of Zone Three, Al Ith has no longer any use-value. She is no longer part of the bioeconomy of the Zone:

She was not going to be accepted back into her old self, or into her land. She was separated from everything she saw. The joyous oneness with soil, and tree and air, the being part of her people so that she knew instantly all there was to know about them, since she was them, as well as being herself, had drained away. (M 232)

'Contaminated' (for Murti) by Zone Four through her biological ingestion and incubation of its socio-genetic materials, Al Ith no longer has a purpose in Zone Three, other than as a icon of a transformative moment, now part of the region's archive. If the primary social function in Zone Three is the passing down of a fixed cultural memory, then Al Ith is no longer able to do so. Now that she has been influenced by Zone Four, she has crossed the boundary between (re)productive capacity and social death.

## Al Ith as Queer Vanguard

Previous criticism of *Marriages* is relatively silent regarding the final part of the text, which sees Al Ith's return to Zone Three and her rapid exile to the fringes of the region, given that it does not offer a satisfying politically feminist resolution. Al Ith does not head off to start her own society (although she has the opportunity to), but eventually drifts into Zone Two, while Ben Ata's new marriage with Vahshi is used to demonstrate his changed relations with women. Politically speaking – in terms of gender equality – the significance of Al Ith's exile is minor, given that both Zones remain attached to the reproductive imperative as the primary motivation for social change; the fundamental possibility for a queer subjectivity not tied to this imperative does not make its way into the core code of either realm. Nonetheless, Al Ith's exile allows her to take on the role of a queer vanguard, a symbol for the revolutionary possibility of an order no longer bound to this reproductive logic, existing on the margins.

Al Ith is exiled because the change she presents to Murti threatens the previously unchallenged, nationalistic narrative of Zone Three as – in Murti's words – 'untroubled', a society in which 'things were as they ought to be' (M 294). When Murti describes Zone Three in this way to Al Ith, Al Ith points out, 'Things were very bad before I was sent down to Ben Ata. We were sorrowful and despondent and ailing', contrasting this to the state of Zone Three after her marriage to Ben Ata, which is not 'falling birth rates and animals who will not mate', but 'the opposite' (M 294). Al Ith's failure to convince her sister Murti that the marriage has turned around the falling birth rates and reversed the general degeneration of both zones is indicative that there is another change at work, outside the imperative of the Providers. This change can be understood as Al Ith's queering. Her stigmatization in both Zones allows her, in Warner's words, 'to challenge the common understanding of what gender difference means, or what the state is for, or what "health" entails, or what would define fairness, or what a good relation to the planet's environment would be' (6). Warner's broad

definition emphasises queerness as a possibility to change the constitution of social codes with regard to the relation between an individual and their environment. In the final section of the text, Al Ith no longer bears the same responsibility towards socialised femininity as she did before and during her marriage: she has been replaced as female leader by Murti, as wife by Vahshi, and as mother to Arusi by Dabeeb. Seeing that her links with 'her' children are now broken in Zone Three, Al Ith wonders 'what those links and bonds could ever have meant, if now someone else could stand where she had, and she was not missed at all' (M 234). In her own diagnosis, she does 'not belong anywhere' (M 235). There is no longer a place for her in any familiar site. For her former people, she is 'somewhere over there' (M 275), an unspecified location, unnamable, as if her departure from the governing centre is not only practical one, but metaphysical.

In this section of the text, Al Ith begins to function, practically, in different parts, no longer adhering to the difference between the metaphorical and empirical worlds. The narrator writes,

She does not turn her back on her realm. She does not repudiate it.  
Easier, more dramatic, if she did. But it is as if she is already living,  
at least with part of herself, somewhere else. (M 277)

Rather than a repudiation of or clean break from Zone Three, Al Ith at this point in the text is described as part of a different set of relations, taking in influences from distant locations through both memory and direct experience. When Dabeeb – visiting Al Ith in exile – sings the song from Zone Five, Al Ith is fascinated by it, 'leaning forward, hands gripped together in front of her', 'all flushed and red and wild, a worn thin woman who seemed as if she was being burnt through and through by invisible flames' (M 279). As Dabeeb notes, this new Al Ith is far removed from the matriarchal figure in blue that arrived in Zone Four to carry out her duty.

Towards the end of the narrative, Al Ith becomes the witch-like figure that Ben Ata mistook her for at the beginning, inasmuch as such she represents

the disruption of established social relations and holds a power not wielded by local crown or imperial drum. Federici describes this figure as, 'the embodiment of a world of female subjects that capitalism had to destroy: the heretic, the healer, the disobedient wife, the woman who dared to live alone, the *obeha* woman who poisoned the master's food and inspired the slaves to revolt' (*Caliban* 11). On the peripheries of this post-industrial region, where social life has been managed into a strict equilibrium of what should be preserved and what should be annihilated, and where the national benefits of female governance are outweighed by endogamous fascism and an unsustainable closed system, and, most importantly, where the female body is still subject to the obligation of reproductive labour, Al Ith represents a disorderly force. It is significant that she moves to this pre-industrial space of pasture and animal care on the margins, the imaginative realm assigned to this figure.

As I have argued, despite Zone Three's illusion of autonomy and feminine utopia, it is still compelled to act in accordance with the orders of the Providers. Zone Three remains the peripheral interest of another centre, which functions explicitly through a colonial capitalist logic of territorial acquisition, the amassing of biopower, and the extraction of resources. Federici argues that by looking at capitalism from the viewpoint of women as primary bearers of the responsibility of species continuation, 'Marx could never have presumed that capitalism paves the way to human liberation [because] even when men achieved a certain degree of formal freedom, women were always treated as socially inferior beings and were exploited in ways similar to slavery' (13). No matter what advances have been made with regard to gender equality in this Zone, Al Ith is still compelled by the Providers to facilitate the improvement of birth rates across the Zone, and to dedicate her sexual choices and bodily labour to this effort. No matter what changes occur as a result of this marriage and the social interaction of Zones Three and Four via Al Ith and Ben Ata, respectively, the Canopean colonial masters still enforce the reproductive imperative on the female body, in this case, Al Ith. To return to the anti-Spencerian argument: when viewed from the perspective of the obligations placed on the female body and the resulting alienation of non-conforming females – exemplified in Al Ith's

banishment – Zone Three does not represent a more advanced civilization than Zone Four, but a different stage of capitalist accumulation. Thus, when Rowe argues that Zone Three is not sufficiently politically feminist, I would go further: Zone Three is not ‘feminist’ in any true sense, because it is still bound to the reproductive imperative demanded by its imperial rulers.

Al Ith’s presence in Zone Four changes the epistemological construction of previously fixed signs, revealing a conventional rather than natural relation between sign and signified. This change in understanding of the possibilities for meaning-making allows a space for her to explore a novel experience of subjectivity – that of a queered subject, and to become a vanguard for the revolutionary potential of this experience at the borders of Zone Three. While her replacement by Murti, Dabeeb and Vahshi signifies a loss of function, it also opens up a different possibility for existence to Al Ith at the peripheries of her former realm. Unwittingly and without a particular goal in mind save living, Al Ith takes the position of vanguard working at the edges of Zone Three, no longer the facilitator of old customs, but instead indirectly challenging the constitution of a social sphere that has grown stale. Lessing’s idea of the vanguard is explicitly based on this idea; in a non-fiction essay on social change, she writes that the foremost task of the vanguard is to ‘prevent a society from going sleepy and uncritical,’ rather than to promote the replacement of one dogma with another (*Prisons* 85).

This is the work that Al Ith carries out in this final section of the text. She becomes a farm labourer, working with the beasts of villagers that give her food and shelter for her work, ‘caring for [the animals], feeding them, exercising them along the lanes and the fields’ (M 245). While this place is bucolic and mediaeval, the scene of a return to a pre-industrial world where a system of barter and agrarian sustainability is still in place, the pastoral idyll is illusory; it provides a backdrop for Al Ith’s changed state, but it is not a resting place. When Murti’s guards remove Al Ith still further to a shed with a small cow, the place of exile becomes a peripheral site of resistance to the regional centre. Zone Three inhabitants also ostracized come to find her, ‘similar to Al Ith’ and feeling ‘a pull towards her’, settling in the farms and villages of the northwestern parts of the

Zone, because they 'suffe[r] from an inability to live in Zone Three as if it was, or could be, enough for them' (M 296-97). On the peripheries, Al Ith becomes a symbol for Zone Three dissidents looking for a way out, the vanguard that stands in for disruption, rather than any alternative ideology. Here, she can receive the influences of other Zones in a way that Murti, the governor of the realm, cannot.

The work that Al Ith carries out in Zone Four does not force the Zone Four inhabitants to adopt the ways of Zone Three. The need for Al Ith to articulate certain protocols of Zone Three around sexuality and childbirth in the environment of Zone Four, translating the digital code of instruction into the analogue code of social context, causes repeated moments of 'runaway' for both her and for the Zone Four inhabitants. One of the results of Al Ith's passage to Zone Four is the general realisation that the zones share this ecosystem, and that what goes on in one Zone has an effect in the other, despite closed borders and aggressive frontiers. They realize their bioregionality, not as a utopia but as a system of stochastic change. Later in the text, the narrator notes,

This story of Al Ith has taught us that what goes on in one Zone affects the others, even when we believe we are hostile, or forget everything that goes on outside our own borders. We share and exchange even our times of sluggishness, insularity, self-applause. When those women strove and struggled to lift their poor heads so they could see our mountains towering over them it was as if they were secretly pouring energy and effort into springs that fed us all.  
(M 176-77)

This vision of ecological contamination across zones does not denote Zone Three as superior and Zone Four as inferior. The energy derived from the striving and struggles of the Zone Four women is its own kind of nourishment, not the 'poison' Al Ith considers their unhappiness to be, which carries over to Zone Three and energises its inhabitants. Rather than inspiring the pursuit of perfectibility, the effect of Al Ith and Ben Ata's marriage seems instead to draw attention to the ebb and flow, warp and woof that necessarily becomes the

measure of activity in a broad and open system of living exchanges. Al Ith has been converted into a 'story', an example, of these exchanges; that the supposed dysfunction of 'sluggishness, insularity, self-applause' does not signal the end or impossibility of sharing and exchange, but rather that these tendencies also produce biosociality, despite the efforts of the Providers to cancel them out or reverse them.

## Conclusion

I have argued that *Marriages* can be read through epigenetic ideas about the complexity of interactions in a given ecosystem as a form of stochastic change, rupturing biopolitical borders of gender, territory and sexuality, and that this leads to the possibility for a queer biosociality in which social relations are not centred on reproductive capacity. The change Al Ith undergoes, which is brought about by repeated moments of disequilibrium and involves the experience of protolanguage as a means of changing social relations, take her from a biopolitical object to a queer subject. In the following chapter, I explore the imaginary of evolutionary complexity and epigenetic change in *The Making of the Representative of Planet 8*. Whereas *Marriages* focuses on reconfiguring subjectivity at an individual level, *Making* can be read instead through histories of anti-colonial struggle and pan-African poetics during the 1960s and 1970s and what John Berger calls 'peasant survival'. *Marriages* and *Making* are somewhat paired because they are the only two novels in the series told from the perspective of colonised subjects (although Al Ith and Ben Ata are proxy leaders, whereas the Planet 8ers are subalterns), and both depict different modes of resistance from colonised subject to imperial power. *Making* is also a rejoinder to the Lombi narrative in *The Sirian Experiments*, attaching a first-person narrative to the voice of the dispossessed. While the ethical problem of *The Sirian Experiments* centres on Ambien II's defection from Sirius and the resulting chaos this brings, the fourth novel is a narrative of subaltern change – the 'making' of a representative who will be able to tell the tale.



**PEASANT SURVIVAL:  
THE AFRICAN TRAGEDY AND VITAL POLITICS IN  
*THE MAKING OF THE REPRESENTATIVE FOR PLANET 8***

In this chapter, I read *The Making of the Representative for Planet 8* as a fable of peasant survival, placing contemporary scholarship on vital politics alongside a reading of the ‘African Tragedy’ during the early to mid-1970s, after the abandonment of development initiatives in peripheral economies after the Nixon Shock and recession in the Euro-US. John Berger argues that ‘peasant life is a life committed completely to survival’, a characteristic ‘fully shared by peasants everywhere’, no matter the master or type of social organisation (feudal or capitalist) (187). Berger defines the peasantry not as non-urbanised groups not yet brought into civilisation, but as a necessary invention of capitalism for the sake of its own perpetuation, a group constituted historically through uneven development. While it is possible to understand the peasantry as antithetical to capitalism’s destruction of feudalism – those left behind by capitalist development, a remainder – I follow Berger in understanding the peasantry as ‘integrated into the historical economic-cultural system’ because it ‘produced the necessary surplus’, rather than being left outside it (188). This is an example of a combined form of development in which the peasantry – a rural subproletariat producing surplus material for capitalist accumulation – exist alongside supermodern structures, and indeed whose conditions of existence are made necessary by these structures. As I explore in my reading of *Planet 8*, it is in the interests of imperial capitalism to keep this class always outside the privileges of the core, while simultaneously within its regulatory mechanisms and extractive efforts.

Tying together the notion of economic and biological surplus under Canopus’s imperial biopolitical regime, *Planet 8* describes this uneven and combined incorporation as not only socio-historical, but also biological: the

peasantry of Planet 8 are brought into material existence through Canopean engineering. *Planet 8* follows the extinction of the Planet 8ers, a race genetically engineered by Canopus, after an unknown crisis affects planets and populations under the dominion of Canopus, which manifests as a sudden, extreme climate change – an ice age. This race, which I call throughout this chapter the ‘Planet 8ers’, in the absence of any other given denomination (presumably deliberate), are some of the peasantry of the Canopean Empire, brought into existence primarily for the creation of surplus labour power and as physical storage for genetic ‘goods’. The crisis marked by the ice age can be described in the broadest sense as ecological; the text sets up categorisations of geological, biological and cultural under the question of what constitutes survival, and what constitutes ‘life itself’. Key to this is the figure of the wall, which the Planet 8ers construct on guidance from Canopus, which is supposed to mark a distinction between cultivated and natural worlds. The failure of the wall to protect them against the ice signifies the limits of Canopean power.

Developing the notion of peripheral realism suggested by the WReC group, as literature which ‘bear[s] testimony [...] to the “shock of the new”, the massive rupture effected at the levels of space-time continuum, lifeworld, experience and human sensorium by capitalist modernisation’ (50), I suggest *Planet 8* as a narrative of peripheral speculation. It not only registers this ‘shock’, but also develops a speculative resistance to it. As the Planet 8ers realise the fact of their impending extinction, they begin to push against their understanding of themselves as reducible to carefully-assembled clusters of DNA material. They begin to consider what Eugene Thacker calls ‘extrinsic life’: ‘life that is perpetually going outside itself, or peripheral life’ (‘Biophilosophy’ 134). If their engineering is for the purpose of creating a surplus-value of genetic material, to be used at a future date, the Planet 8ers’ resistance to this requires not just ideological contest, but reconfiguring Canopus’s reduction of their existence as a Canopean resource. Using Berger’s formulation that ‘the metaphysic of capital’ is not based on past achievement, but refers only ‘to a future expectation’, the Planet 8ers’ loss of relevance for Canopus is also a moment of opportunity. In this sense, I read *Planet 8* as extending the theme of irrelevance as resistance

introduced in the Lombi experiment in *The Sirian Experiments* (1981). In *Planet 8*, the perspective is repositioned from coloniser to colonised, depicting the work of decolonisation as both epistemological and structural.

Can the formerly colonised territory ever be fully decolonised, and is decolonisation only effected through a change in political representation? In a discussion of post-colonial Johannesburg, the WReC group ask if the city can ever be 'liberated from the divisions of labour and living that its constructed material form, its design and layout, its roads and communications networks, continue to encode and institutionalise' (146)? What is to be done with the inheritance of an implicit instruction, continually activated by the functioning of everyday life? In *Planet 8*, this question is extended to the question of biologically programming. The novel develops a theme that recurs in all the novels – what Nikolas Rose calls 'a new "vital" politics', the 'object, target and state' of which are 'human life itself' ('The Politics of Life Itself' 1) – tying this to a speculation on emancipatory politics that push against this paradigm. Rose argues that while vital politics of the first half of the twentieth century were characterised by 'a particular understanding of the inheritance of a biological constitution and the consequences of differential reproduction of different subpopulations,' this changes in late twentieth and twenty-first centuries to become 'concerned with our growing capacities to control, manage, engineer, reshape, and modulate the very vital capacities of human beings as living creatures. It is, I suggest, a politics of "life itself"' (*Politics* 3). *Planet 8* can be read through this transition – broadly speaking, from governmental focus on inheritance and reproduction to that of control, management and modulation.

Rose follows Deleuze's formulation of a control society here, which I outlined in Chapter One: while a disciplinary society seeks to enclose, the control society requires no gates, but 'effects a universal modulation' by tracking 'each person's position' (7). Similarly to *Memoirs*, the crisis in *Planet 8* is also a moment of possibility for social reorganisation, and resisting new technologies enabling this ongoing seizing of life itself. Rather than representing this possibility at a structural or subjective level, as *Memoirs* does, *Planet 8* takes as its subject the politics of life itself. Undoing the epistemological and psychological inheritance

of imperial subjugation is developed through a repositioning of ‘human agents’ in a sphere of living actants. This leads to what Thacker might call a ‘molecular-wide’ perspective which acknowledges ‘the ineffability and irreducibility of life’s description’ (‘Biophilosophy’ 142), taking this as an opportunity not to abdicate responsibility, but to cultivate a new kind of ethical relation between differentiated spheres of ‘human’ and ‘non-human’ activity. In this crisis, Canopean knowledge formation about the relation between humans and the environment, and their efforts to produce and capture human life as biopolitical surplus, are subverted. This subversion is temporary, but, I argue, mark Lessing’s speculative and literary contribution to the global debate around African anti-colonial resistance contemporary to the novels.

By focalising the narrative through the Planet 8ers and their perspective on Canopus, a peripheral workforce observing their rulers, the novel stages a critique of neo-imperial governance through voices of an invented subproletariat. The Planet 8ers function as what Berger calls ‘an economy within an economy,’ whose primary characteristic is survival. The peasant must ‘survive the primary handicap of having a “surplus” taken from him’, ‘all the hazards of agriculture – bad seasons, storms, droughts, floods, pests, accidents, impoverished soil, animal and plant diseases, crop failures’, and ‘with the minimum of protection, he had to survive social, political and natural catastrophes – wars, brigands, fire, pillaging, and so on’ (189). The environmental insulation afforded to the capitalist or feudal lord is not given to the peasant class, which must adapt to rapid and unforeseen shifts in their circumstances by forging temporary alliances and cultivating informal negotiations to supplement the failure of care and the extraction of labour. In this sense, the peasantry are positioned at the forefront of evolutionary change.

Shadia Fahim reads *Planet 8* through Sufi transcendentalism, arguing that it depicts ‘the reconciliation between the individual and the collective consciousness [...] which signifies the fulfilment of descent and the first step towards ascent’ (152). She argues that throughout the *Canopus* novels (and also *Memoirs*), a strategy to ‘transcend [a] limited perspective’ is repeatedly invoked. Sufism allows an interesting entry point into the discussion of perspective and

self-understanding in this chapter; however, this suggests a much more directed, self-aware and self-willed mode of change than I read in the text. Given that the Planet 8ers are in the first instance responding to a crisis, I find more interpretative flexibility in the argument that the Planet 8ers' transformation is tied to recognising, then negating, then modifying their genetic engineering. My claim here is that the transformation undergone by the Planet 8ers – albeit temporary, given the 'return' to Canopean care at the end of the text – is to disconnect themselves from the determinations of their inheritance and to explore a mode of living as molecular life. In *Planet 8*, a posthumanist vision of 'life itself' appears as a strategy of decentring and undoing the long-term violence of the transhumanist project, through the invoked history of anti-colonial struggle.

Angela Hague argues that 'forced evolution' is 'actually Lessing's depiction of a world in which intuitive consciousness emerges as a political stance that relinquishes power and control in favour of a symbiotic, collaborative relationship among diverse peoples and cultures' (298). I read this as a description of a capitalist world-system, not a relinquishment of power and control but rather power and control premised on vast economic unevenness sustained through forced symbiosis between core and peripheral territories. The WReC group describes such a system as 'characterised by vertical and horizontal integration, connection and interconnection, structurality and organisation, internal differentiation, a hierarchy of constitutive elements governed by specific "logics" of determination and relationality' (8). Diversity of culture and of people can be understood here as economic as much as biological. Through 'forced evolution', Canopus manages the domestic concerns of its peoples, in terms of labour, biopower and culture. The novel's critique of Canopus through the narrative construction of a world-system based on the extraction of a surplus (energy, resources, genomes) that the Planet 8ers are programmed to experience as 'natural'. What Hague reads as a 'symbiotic, collaborative relationship among diverse peoples and cultures' with regard to Canopean ordering of the system, I read as a relation of biopolitical management, in which populations are created and controlled by Canopus for imperialist expansion.

A materialist interpretation of *Planet 8* allows a thorough exploration of the novel's representation of genetic epistemology, and keeps the repeated blurring of boundaries between human/non-human, animate/inanimate at the centre of the analysis. Spiritual transcendence does not equate to political emancipation, and is bound to implications of infinite temporality; a vital politics, on the other hand, still restricted by the contradictions and challenges of living between past and present, is a way of exploring different modes of living which are in themselves historical. I read *Planet 8* along the ethical contours of the following claim made by Donna Haraway about 'transspecies love':

Human beings' learning to share other animals' pain nonmimetically is [...] an ethical obligation, a practical problem, and an ontological opening. Sharing pain promises disclosure, promises becoming. (84)

The significance of the wall's inefficacy as a barrier between 'human' and 'nature' is at the centre of the narrative's ethical considerations. The Planet 8ers do not so much become different beings, as they perceive their existence beyond the biopolitical determinations of Canopus, as part of a perpetual 'becoming'; furthermore, this changed perception comes about through relations of care. As Hanson argues, *Planet 8* 'calls into question our assumptions about the relationship between humans and all other now or once living species' ('A Catastrophic Universe' 165). The conflict between transhumanist and posthumanist implications that Hanson reads can be interpreted historically as the difference between the superman projected through the transhumanist ideals of the interwar eugenicists, and a mode of living that would take into account the suppleness, flexibility and fragility of animate and inanimate relations. *Planet 8* depicts these interactions taking place in what Jane Bennett might describe as an assemblage of human and nonhuman actants (following Deleuze and Guattari), in a 'distributive and composite' understanding of the 'nature of agency', not confined to the human (Bennett 446).

I draw Rose's argument about vital politics into a historical reading of *Planet 8* as an analogy for the African Tragedy of the 1970s, the effect of a global

economic shock on sub-Saharan Africa, in which the development initiatives of the 1950s and 60s by international funding agencies – the World Bank and the International Monetary Fund (IMF), among others – came to a halt as the effects of the Nixon Shock swept the globe. The shock revealed much about the state of global governance and the post-colonial ‘North’/‘South’ division of former colonial centres and colonized peripheries and semi-peripheries, not least in the devastation it caused for emerging post-colonial markets. Using a metaphor highly appropriate for my reading of *Planet 8*, Giovanni Arrighi describes the effect of the recentralisation of US purchasing power as a way of dealing with the Nixon shock as the ‘cold winds of competition blowing’ over the world-system (334). In *Planet 8*, I read this shock as analogised through the ice age on Planet 8, a peripheral planet under Canopean dominion, resulting in the extinction of its populations. By drawing the extinction as not only economic loss but loss of life, *Planet 8* incorporates the undocumented life-cost of an unspecified transglobal crisis into the Canopean archive.

In the ‘Afterword’ for *Planet 8*, Lessing explains her motivation for rendering this change across different levels of experience, and different forms of life:

It seems to me that we do not know nearly enough about ourselves; that we do not often enough wonder if our lives, or some events and times in our lives, may not be analogues or metaphors or echoes of evolvments and happenings going on in other people? – or animals? – even forests or oceans or rocks? – in this world of ours or, even, in worlds or dimensions elsewhere. (190)

This perspective, in theoretical terms, resonates with multispecies ethnography, which S. Eben Kirksey and Stefan Helmreich described as the study of ‘the host of organisms whose lives and deaths are linked to human social worlds’ (545), and a conceptual bridge between anthropocentric ethnography and the dissolution of species borders into extrinsic life. In political terms, this would

also rupture any kind of typological hierarchy of being fostered through the language of scientific racism.

Ventriloquising the rhetoric of developmentalism in terms of Canopus's relation to the population of Planet 8, Lessing's novel moves out of this confinement of human interests to what Eduardo Kohn describes as 'an anthropology of life that is not just confined to the human but is concerned with the effects of our entanglements with other kinds of living selves' (cited in Kirksey and Helmreich 545). *Planet 8* stages the reconfiguration of boundaries between life forms differentiated by imperial typology and the bordering of a 'human' world from 'nonhuman' actants and inanimate elements. Following Gilles Deleuze and Felix Guattari's notion of 'becomings', this introduces different possibilities for 'new kinds of relations emerging from nonhierarchical alliances, symbiotic attachments, and the mingling of creative agents' (241-42). In Deleuze and Guattari-inflected essay on cross-species transmission of influenza through what she calls 'multispecies clouds', Celia Lowe finds value in the idea of viral becomings, because it centres a radical uncertainty and makes the recognition of molecular agents necessary for understanding all of the transformations and encounters created by this transmission: 'Rather than existing in well-bounded populations, these biotic entities organise into clusters of genomes with unstable group boundaries', making necessary words such as 'mutant swarms' or 'clouds' in order to describe the nature of their existence (625-26). This 'transforms types into events, objects into actions' (Kirksey and Heimreich 546). In this transformation, other modes of survival are thrown into relief, unmoored from the neo-Darwinian focus on species survival and into an extended ontology of 'life itself'. Their extinction is reconfigured under the sign of 'life itself', away from the anthropological or zoological differentiation and categorisation of life forms into species, towards conceiving molecular life.

This is comparable to epigenetic theory, understanding epigenetics as holding the potential for an anti-reductionist framework allowing the consideration of adaptation as a series of flexible and ongoing processes, rather than a trait-oriented theory that stresses the relative fitness of particular species to adapt to their environment and to compete with fellow actors in determining



evolutionary change. It opens up the scope of evolutionary activity by painting a more complex vision of the organism as a set of co-existing and often contradictory processes through which equilibrium is managed. The epistemological reconfiguration of ‘types into events’ and ‘objects into actions’ echoes a radical shift in epigenetic thinking for theorising the complexity of adaptation and evolutionary change, outside a gene-centric model of inheritance and mutation. This has implications for the political sphere, not in the sense that organisms can will their own change – as some popular accounts of epigenetics claim – but rather implies the contingency and unpredictability of life when analysed as a process of molecular interactions between various differentiated spheres of activity.

*Planet 8* engages with the debate over environmental influence on gene expression in Euro-US genetics parallel to the publication of the *Canopus* series, made prominent by the work of epigeneticist Barbara McClintock and her 1983 Nobel Prize win for her work on ‘jumping genes’, which I explore later in this chapter. The determinations of the colonial rulers on the Planet 8ers as individual units designed and produced specifically for future Canopean use, and their organisation of ‘nature’ against ‘human’ with regard to global organisation, are subverted on one hand by a form of adaptation that takes place at levels of epistemology and learning towards what Thacker calls a ‘molecular-wide perspective’ (‘Biophilosophy’ 142); on the other, by the rupture of individual or species death as a category of experience and its supplementation with new kinds of relations between different agents. There is an epigenetic textuality at work in the descriptions of the Planet 8ers’ adaptation to their changed ecology, and their recognition of themselves as being part of this ecology – both influencing and influenced by it – and in the narrative’s breaking down of anthropocentric boundaries of experience (the wall and the snow being a grounding topological binary that is gradually undone as the narrative progresses).

Through the Planet 8ers’ perspective, the novel introduces the question of self-determination into the more general *Canopus in Argos* narrative of (inter)globalised inequality and exploitation. It can be read alongside Eve

Jablonka and Marion Lamb's claim, outlined in Chapter Two, that 'not everything inherited is genetic', and that behavioural, epigenetic and symbolic systems can have both 'direct and indirect influences on evolutionary change' (107). Reading *Planet 8* as a rejoinder to the Lombi experiment – this time told from the point of view of the slave workforce/test group – the more striking change is not their biological adaptation, but the epistemological reconfiguration of 'themselves' outside a colonial logic. Berger argues that the peasant 'does not conceive of what was taken from him as a surplus', but instead 'might think of his imposed obligations as a *natural* duty, or some *inevitable* injustice' (188-89; italics mine). The emancipatory potential of the narrative derives in part from the Planet 8ers no longer taking their subjugation and exploitation for granted. With regard to their self-understanding, the Planet 8ers go from being extensions of Canopus (who abandon them) to being part of a ceaseless sphere of activity (where they can move between differentiations). Their survival narrative is characterised by recognising the possibility of self-determination in a molecular-wide ecological realm, a possibility which the Lombi experiment, given its narration by Ambien II, does not allow. The Planet 8ers reconceive their existence under Canopean dictates from a natural duty to an artificial one, and their perception of the conditions of 'life itself'.

### **Constructing a Workforce: Canopus's Genetic Creations**

The subjects of Planet 8 are genetic creations of Canopus, the product of stock from four species, defined by Canopus before the crisis in purely biological terms. The crisis prompts an epistemic shock – an unexpected shift in knowledge – for both Canopus and for the Planet 8 population. The implications of this shock affect the biopolitical management of the Planet 8ers by Canopus, the shock produced by the experience of ecological crisis

precipitates a change in the social relations among the Planet 8ers, as well as their relationship to their colonial masters, the Canopeans. The Planet 8ers have been transported to the planet by Canopus under the broad project of Forced Evolution that the Canopeans undertake among most of their subject populations. Planet 8 is taken over by Canopus as a colonial outpost on which they deposit a genetically-engineered workforce:

Everything on Planet 8 that had been planned, built, made – everything that was not natural – was according to their specifications. The presence of our kind on the planet was because of them: because of Canopus. They had brought us here, a species created by them from stock originating on several planets. (P8 11)

The Planet 8ers are objects in a Canopean system, created and governed for the purpose of a future symbiosis with Rohanda. They have no say over their own development; everything is determined for them by Canopus, who are bringing up another race ‘to a high level of evolution’ for the sake of cross-breeding with the Planet 8ers (P8 45). After the ecological shock hits Planet 8, the Canopean agent Johor, from *Shikasta*, tells them they will be taken to Rohanda once they have completed ‘raising a certain species there to a level where, when your kind [the Planet 8ers] are brought in, you will make a harmonious whole’ (28), but not before this has happened. The Canopean economy is ‘a very finely tuned one’, Johor tells Doeg; ‘our growth, our existence, *what we are* is a unit, a unity, a whole – in a way that, as far as we know, does not exist anywhere else in our galaxy’ (57). This unity would be reflected in the synthesis of the Rohandan and Planet 8 populations, which together would ‘become something quite extraordinary’ (P8 80), and is embedded in a transhumanist vision of human futures: to create a Canopean utopia on Rohanda from the genetic material of various engineered or edited human populations.

This is a eugenic vision of an (inter)world-system determined by Canopus, a unity based on a shared economic consciousness. Hague reads this ambition to

create a 'harmonious whole' as an abdication of power, a carefully planned structure that 'avoids the ravages of power and technology'; realizing one's own part in this unity, 'Necessity', 'allows one to function consciously and effectively as part of it', and it is Canopus's ultimate goal to 'acquaint each individual with this knowledge' (300). Hague's reading brushes over the highly utilitarian language of this ambition, and seems to justify a kind of brainwashing into Canopean purpose. Here, Gore Vidal's observation in his review of *Shikasta* is relevant, when he describes Canopus/Sirius/Shammat as 'good and bad extraterrestrial forces who take some obscene pleasure in manipulating a passive ant-like race' (203). It would be a case of taking this observation further into the different mechanisms of manipulation in the novels, rather than taking exception to the idea that the Canopeans are manipulative power-seekers. These criticisms of *Canopus in Argos* novels miss Lessing's critique of imperial manipulation in the name of general good, rather than depicting these different empires as being a battle between benevolent intervention and utilitarian rule.

The forced evolution of populations under Canopean dominion is achieved in part through 'the Lock', 'a network of near-physical emanations that links Rohanda to the Canopean Empire and supplies it with a steady, nurturing stream of SOWF', the 'substance-of-we' feeling. The Lock maintained between Canopus and its governed populations is analogous to this structure of dependency, management and – in practical terms – the continued direction of resources towards the Euro-US. As I show below, this 'substance-of-we' feeling – ephemeral, invisible, a general atmosphere of connection and influence – is comparable to the disembodied force of post-war global finance, the system of finance capital set up through the Bretton Woods institutions to ensure economic security for Western allies (US, Canada, Western Europe, Australia and Japan), with the US positioned as the central power of finance (rather than the UK). The two institutions set up through the system – the IMF and the International Bank for Reconstruction and Development (IBRD) – employed the mechanisms of transnational finance capital to centralise global development and, to an extent, global governance. One of the two branches of the World Bank that focus on international development, the IBRD is based on human

development, agriculture, environmental protection, infrastructure and construction projects; they also fund governance programmes on legal institutions and anti-corruption. These institutions determine both what needs to be done and how to do it, and manage the receipt and use of funds with which to carry out 'development', according to centrally-determined criteria. When Fahim points out the general theme in *Canopus in Argos* of the Canopeans 'striving to regain equilibrium' (139), I would suggest that such equilibrium is economic, based on regaining control over the mechanisms of its sovereign power. SOWF is analogous to finance capital without a country.

On one hand, the 'substance' of these funding bodies - the basis of the connection from benefactor to recipient, creating a global 'unity' - is a satellite governmental relation based on the transmission of finance, maintaining a core-periphery dynamic between countries during the post-war period by constructing a mythology of 'First' and 'Third' worlds, or North/South. However, they also ensure the management and control of these peripheral economies, both domestically and internationally, through a relation of borrowing and therefore obligation to uphold certain international standards. These institutions re-constituted the Core-Periphery topography of the capitalist world-system; while the US was repositioned as the central national power in the Bretton Woods system - thus marking a change in power in nation-state terms - in an ideological and bureaucratic sense this was simply the shift of British imperialism westwards, a regional change rather than a systemic one. The IMF and the World Bank effectively created a stranglehold by which to grant or disable certain peripheral economies' participation in global finance and exchange.

*Planet 8* immediately establishes a power dynamic between Canopus and the Planet 8ers analogous to that of North/South, 'First'/'Third', rooting this in a biological analogy with regard to the genetic invention of the Planet 8ers by Canopus, a population that has been created to sustain inequality. As I will argue later, this is the imaginative realm within which the management strategies of the IMF and the World Bank are administered: they continue to operate within colonial constructions of other worlds, where the word 'developing' replaces

‘civilising’, maintaining a ‘Lock’ between core and peripheral economies to ensure the continuation of colonial power structures.

The text begins with the premise that the Planet 8ers will give an account of ‘how the Canopean Agents seemed to us in the time of The Ice’ (P8 11), told from the perspective of Doeg, the Planet 8 storyteller. By arranging the narrative in this way – as a response to a request for an account of Canopean administration from a group made extinct by them – the text offers a truth contract not present in the first, third and fifth novels. If Johor, Ambien II and Klorathy’s accounts in *Shikasta*, *The Sirian Experiments* and *The Sentimental Agents of the Volyen Empire* are organised to deliver a story about colonial power by mimicking and parodying the anthropological violence of the European empires and Soviet Union along the lines of progress, then the account from the perspective of a colonized subject makes visible the effects of this governance across mind and body; for the Planet 8ers, this dynamic is their origin, their claim to life itself. Colonialism *brings into being* peoples by naming them, displacing them, recording them, studying them, and managing every aspect of their existence in relation to that which they are not.

This comes out in Doeg’s statement on the Planet 8er’s ‘obedience’ to Canopus: ‘Does one talk of obeying when it is a question of one’s origin, and existence?’ (P8 11) Doeg’s name is interesting to consider, suggestive of a relation of domesticated non-human (a dog) to a master. The dynamic of dependency sustained by a disembodied, ethereal ‘substance-of-we’ feeling is not an abdication of power, as Hague suggests, but is the strict enforcement of absolute control over life in every aspect. This is why, when the crisis comes, it is not just a question of economic failure; this crisis affects every aspect of life for the Planet 8ers. What is simply economic profit/loss for Canopus (in a general sense, as opposed to Johor’s individual guilt) is translated into biological loss for the Planet 8ers; their extinction as a result of the ‘Failure of the Lock’, suffering the effects of The Ice, is a kind of literal analogy for the uneven effects of economic on peripheral economies.

In *Planet 8*, economic crisis is imagined through its effect on a peripheral planet, while in *The Sirian Experiments*, we see this disparity in the urban

planning of individual cities. The structure can be scaled up from city district, to peripheral nation, to peripheral planet; from a structural perspective, the scale is incidental. In this sense, the same structure of domestication and annihilation occurs in both plantation and colony. Yet by setting up the account of the Planet 8ers on a planet on which they are governed by Canopus, Lessing imagines the experience of economic crisis for a peripheral economy as an existential threat, conveying the scale of devastation and the way in which the failure of a ghostly capitalism annihilates biological life.

What seems to the Canopeans not much more than a sad, small loss, for the Planet 8ers is total. Planet 8 is a peripheral interest of the Canopeans. The demise of the Planet 8ers is mentioned in *The Sirian Experiments* during an inter-imperial conference between Sirius and Canopus on the general crisis following Failure of the Lock. Ambien II reports that the atmosphere of the conference is 'low and dispirited': 'Canopus had been shaken by the Rohanda failure, and was made miserable, as they freely confessed, because of the fate of the unfortunate Planet 8, which they now could not save and which, even as the conference took place, was being abandoned, with loss of life and potentiality' (SE 77). Planet 8's parenthetical appearance in *The Sirian Experiments* – referred to only to explain the low atmosphere of the Sirius-Canopus conference – is a demonstration of the disparity in action. The loss for Canopus is a potential, a possibility for future use; their sadness does not mean that they are prepared to concede anything with regard to their general organisation or centralised decisions about who lives and who dies. As the Planet 8ers are in the process of dying out, the Canopeans are already mourning them as a failed experiment.

Staging this peripheral disintegration on a planetary scale invokes what Sylvia Wynter calls the biocentrism that grounds the sovereignty of capitalist imperialism: the description of human life in meta-Darwinian terms (McKittrick 14). This description becomes most visible when the system falls into crisis, as it shows up the terms in which life itself is measured. By holding natural selection as a core evolutionary mechanism – that is, by reducing biology to an *economic* system of exchange – life can be calculated, given value, and also can and will be biologically annihilated by being unable to participate in the economic system.

By setting up a relation of dependence, the Canopeans effectively create a situation in which biological life is conditioned by economic inclusion. The destruction is organised to be a remote experience for the centre, and a direct one for the periphery.

The relation of dependency between Canopus and Planet 8 is set up immediately. Before the crisis, the Canopeans – usually Johor – come without warning, sporadically; they ‘gave us advice, showed us how we could more effectively use the resources of our planet, suggested devices, methods, techniques,’ before leaving ‘without saying when we might expect to see Canopus again’ (P8 11). The intermittent and unpredictable rhythm of the Canopean agents’ visits reflects a unequal relation, in which Canopus may come and go, while the Planet 8ers are required to carry out whatever instructions are bestowed to them by Canopus. It is also an effective strategy of surveillance, as the Planet 8ers never know when the Canopeans will arrive to check that they are upholding Canopean specifications. This governance extends across all realms of existence – cultural, biological and infrastructural. Just as the biological inheritance of the Planet 8ers is determined by genetic engineering, Canopeans also ‘give’ the Planet 8ers legends to repeat to their offspring ‘to prepare the minds of our people for understanding our role as a planet among planets’ (P8 50). Like Lelanos and Adalantaland in *The Sirian Experiments*, the social structure is upheld by the rote learning of origin stories to transmit to future generations, that will one day form the cultural mythology for Canopus’s planned utopia. This is long-term genetic engineering, colonisation across all levels of lived experience.

Planet 8 is rich in resources, and the Canopeans make sure that the infrastructure for mining iron is put in place. The ‘best road on the planet’ is constructed in order to transport ‘heavy loads or ore’ from the mines; Nonni relates,

Before our town was built and we began mining, there was no centre for making iron, though it was made in a small way everywhere. It was Canopus who told us to look for iron here, and what to look for, and



then how to work it and mix it with other metals. It was clear to us that these metals we were making would change the way we all lived.  
(P8 41)

If this is a development project for the sake of the progress of the Planet 8ers, then it bears close resemblance to colonial resource extraction – Rhodes’s gold mines in southern Africa. Planet 8 resembles a colonial outpost under the governance of the imperial centre and a decolonized nation dictated by development projects – skills training, the installation of infrastructure for extractive processes – of the World Bank. In terms of the effect of Canopus on the Planet 8ers’ practical existence, these histories exist on a continuum. Whether colonized or supervised, the Planet 8ers develop according to a programme not determined by them.

The debilitating impact of IMF and World Bank policies on Africa has been much discussed; in a paper on this topic, Christina Kingston, Jackson Irikana and Kato Kingston support the view that ‘Africa’s underdevelopment has largely resulted from the ways in which African states have been created and political authority shaped through interactions with developed countries in the context of global economic and political systems,’ and that ‘the economic woes of Africa are due to the vagaries of the external environment which is controlled by the industrialized countries’ (111). Africa, argue P. Thandika Mkandawire and Charles C. Soludo, ‘has turned into a pawn in the chessboard of experimentation for all manner of ill-digested development theories and pet hypotheses’ (2). Similarly, Kingston, Irikana and Kingston argue that ‘development and underdevelopment in society are two sides of the same coin’ (111); it is not that African countries have been slow or unable to take up the initiatives and training offered by the World Bank and other international funding agencies, but rather that this funding is premised on the condition that decolonial nations continue to be profitable for neo-colonial powers. Thus, this power dynamic nurtures sustainable underdevelopment: the systematic denial of equitable standards from ‘First’ to ‘Third’ worlds as the very basis on which the world-system is founded. The term ‘sustainable underdevelopment’ was first used in a UN press

release from 1997 titled ‘Sustainable Development Commission Hears Calls For Reversing Trend Towards “Sustainable Underdevelopment”’; representatives from Second or Third World economies (Cuba, Brazil, Algeria, Indonesia) argue that economic liberalisation is contributing to poverty, environmental issues, and marginalization. Ricardo Sanchez-Sosa, then the Cuban Vice-Minister for Science, Technology and Environment, is quoted as saying that ‘the process of globalization and the new trends towards liberalization has led to poverty and hunger’ (‘Sustainable Development Commission’). As a laboratory for development experiments, ‘Africa’ is constituted as a speculative realm, a site of potentiality and possibility, not for ‘Africa itself’, but for the sake of trying out markets, methods and products that can be brought into the domestic markets of the world powers.

In *Planet 8*, this laboratory is not only socio-economic, but also biological. Canopus’s sorrow at the loss of Planet 8 described in *The Sirian Experiments* can be read through this lens, as a loss inscribed in speculation, the loss of a possible future and source of labour power, rather than a shared grief for an annihilated present. Just as the world-system can absorb failed experiments in Africa, so too can Canopus absorb the loss of Planet 8. Seen from the perspective of the chessboard – to use Mkandawire and Soludo’s analogy – these losses are existential, rather than calculable. This difference traces the fault-line between abstract loss and actual; or, between different constitutions of ‘life itself’, the reduction of the biological to the economic, or – following Haraway – the opening up of life to the promise of becoming.

### **Core Quake, Peripheral Tremors: The Nixon Shock**

The end of Canopean development initiatives on Planet 8 echoes the interruption of development projects during the 1950s and 60s in decolonial nations by the monetary crisis of the 1970s, beginning with the Nixon Shock of 1970, involving the overvaluation of the dollar. What is called the ‘Nixon Shock’ stands in for the accumulation of several failures in US governance: the failure of

the Vietnam War and the massive incursion of debt and loss of confidence in the US globally; debt incurred through Lyndon B. Johnson's Great Society programmes between 1964 and 1965 which attempted to address domestic inequalities of education, healthcare, urban infrastructure and income, focused on the elimination of poverty and economic racial segregation; the collapse of the London Gold Pool and the subsequent drain on US gold reserves in 1968; and a negative balance of payments. Giovanni Arrighi argues that the crisis was signalled in 'three distinct and closely related spheres', military, financial and ideological:

Militarily, the US army got into even more serious troubles in Vietnam; financially, the US Federal Reserve found it difficult and then impossible to preserve the mode of production and regulation of world money established at Bretton Woods; and ideologically, the US government's anti-communist crusade began losing legitimacy both at home and abroad. (*Long Twentieth Century* 309)

Arrighi's analysis is useful in drawing a multifaceted picture of the crisis: first, as a crisis of legitimating foreign intervention and the international condemnation of the loss of life incurred by the war, both Vietnamese and American, made possible in part by the global media transmission of US military failure and attempted genocide in Vietnam; second, as the inability of the US to retain their hold over financial power made possible by Bretton Woods, and, by extension, the (temporary) failure to maintain a relation of developmentalism to peripheral economies; and third, a loss of faith in anti-Soviet Cold War propaganda. In short, it was a crisis of confidence in US neo-imperialism, both domestically and internationally, threatening its post-war position as supreme world power and as core market for globalised capital and exchange, to which all other markets are directed.

I read a correlation between the historical retreat of the US from the centre stage of global governance during the time-period of the novels, and the fictitious failure of the Lock that causes Canopus to withdraw temporarily from

their usual intervention on peripheral planets. Arrighi argues that Vietnam caused a crisis of credibility for the US; he writes that the war demonstrated that 'the most expensive, technologically advanced, and destructive military apparatus the world had ever seen was quite powerless in curbing the will of one of the poorest people on earth', undermining the US government's claim to be 'policemen of the free world', and contributing to the power vacuum then exploited by the USSR and its allies (*Long Twentieth Century* 332). Notably, this included 'complet[ing] the process of national liberation from the last residues of European colonialism', and Arrighi uses the example of Zimbabwe.

Articulated resistance to Canopus appears early in the narrative. While Doeg describes Canopus as the 'origin' of the Planet 8ers' existence, he follows this by admitting that 'there was once a near rebellion', after the Planet 8ers try to argue against Johor's instruction to build a 'tall thick wall' around their globe, on the grounds that 'to make this wall would take all of our strength, all our effort, and all our resources for a long time' (P8 12). The resistance is met with 'Johor's smiling silence' (P8 12), and the wall is built, but the rebellion erodes the vision of unquestioned obedience that Doeg claims defines the relation between the Planet 8ers and Canopus. It is an attempted moment of collective self-determination, in which the Planet 8ers attempt to assert their right to their own resources and labour-power.

While the crisis ostensibly has nothing to do with the attempted rebellion of the Planet 8ers, the moments merge in a general devolution of Canopean hegemony. Pulling in the historical crisis out of which the text emerged, we can also read the order to build the wall alongside the competition among First World countries for Third World supplies of labour and energy, resulting in hyperinflation and, consequently, a loss of purchasing power for the US. Similarly, the wall is a speculative construction project, creating a need for the Planet 8ers to invest strength and resources in a Canopean venture, without much possibility of a pay-off. It depletes their resources, meaning that they cannot build new dwelling places when the Ice arrives, because 'we did not have the materials' (60). The resistance to the wall's construction can be read as

analogous to a Third World bargaining position while the First World struggles to maintain dominion.

### **Core Retreat, Peripheral Extinction: US Recentralisation and the African Crisis**

The extinction of the Planet 8ers occurs because Canopus refuses to bail them out, which equates to refusing to transport them to a safe planet to save them from the ice. Similarly, the US was able to restore its economic dominion towards the end of the 1970s by 'tightening [its] monetary policies' and recentralizing purchasing power to the US, using private high finance to 'regai[n] the upper hand in the global power struggle' (Arrighi, *Long Twentieth century* 334, 333). This 'curtailed the demand for Third World supplies', leading to increased competition between these nations to supply to the US, and contributing significantly to the African Crisis of the late 1970s (Arrighi, *Long Twentieth century* 334). While the excess liquidity of the early 1970s had resulted in the improvement of bargaining positions in Third World regions, the welfare of populations had not improved at a similar rate. The reversal in US fiscal policy – the redirection of capital flows to the US – 'reflated both effective demand and investment in North America, while deflating it in the rest of the world' (Arrighi, 'The African Crisis' 22). This forking of destiny constituted a split between markets able to compete in supplying the North American demand for cheap industrial products, and those who could not; East Asian and, to a lesser extent, South Asian nations were in the first bracket, and African countries in the second (Arrighi, 'The African Crisis' 22). The reordering of capital flows saw Third World states requesting First World governments provide the credit needed for them to stay afloat, and the US in a particular position to be able to allow certain nations to – effectively – die out in economic terms. The US was able to restore their dominion post-crisis, but only through 'a basic neglect of world governmental functions' and the recentralisation of purchasing power (Arrighi, *Long Twentieth century* 309).

There is a comparable logic at work in *Planet 8*. At first, Johor claims that the plan is still to transport the Planet 8ers to Rohanda, and that they will be sheltered from the worst of the Ice until then (P8 27). Explaining the crisis as a change of ‘Alignments’, he tells Doeg that Canopus has had to give up its hopes for the ‘stability and slow growth’ of Planet 8 (P8 28), resonant of the rhetoric of developmentalism, the emphasis being on bringing Planet 8 to a particular economic standard before they can be fully of use for Canopean purposes. By the time he returns to Planet 8, Johor tells them that they will not be saved. He comes alone, as a representative for Canopus at the deathbed of a dying colony: ‘I shall be with you for – quite a little time’ (P8 70), not to save, but in a performance of benevolent colonial guilt. Doeg realises this, and his voice becomes ‘wild and angry’ when speaking to Johor, resistance replacing his former stance of deference towards the Canopean Agents. Whereas at the beginning of the text, Doeg describes the Canopeans through the lens of ‘an authority they all had’, ‘an expression of inner qualities’ rather than ‘a position in a hierarchy’ (P8 11), now he challenges Johor on the intrinsic inequality of Canopean relations with Planet 8, letting his voice ‘ring out in the cold silence’ while shaming Johor’s admission that they will not be saved, and interrogating Canopean biopolitical control: ‘Have you planned that another species, another of your genetic creations is to enjoy Rohanda?’ (P8 70) Doeg’s reference to ‘genetic creations’ shows his awareness of the Planet 8ers position with regard to Canopus, not simply as progeny or wards, but as synthetic products put into existence for the sake of Canopean interests: the meaning of obedience to an origin is constituted differently. Rather than standing as the reason for obedience or duty, the oppressiveness of the debt of origin is realised.

It is also at this time that the Planet 8ers begin to realise the inefficacy of Canopean teachings and skills training, how these initiatives are not taking hold in the way they have done in the past, after their abandonment in this time of great need: ‘[W]e were not saved, not being rescued, and everywhere our people degenerated and became thieves and sometimes murderers and there seemed no end to it all’ (P8 63). While Doeg condemns these violent deeds, they can also be read as part of a militant resistance to the regulations of life under Canopean

determinations, guerrilla warfare for the sake of establishing a new political regime. This is comparable to the tactics of resistance fighters in Zimbabwe's Bush War, whose broader context represents the continued fall in the fortunes of European colonialism and the possibility for alternative models of governance in sub-Saharan Africa.

No longer of use to Canopus, and no longer in the relation of teacher-pupil, the Planet 8ers begin to teach themselves about their relation to this changed environment. They make a journey around the planet, without Johor, 'feeling a need to press on from place to place, as if elsewhere we could come on something that might aid us' (P8 64). It prompts the Planet 8ers to imagine a different kind of origin story – and beyond this, a different account of life itself – by bringing into relief the fragility of their connection to Canopus, their supposed source of life. The Planet 8ers begin to understand that their bodies and minds have been conditioned to function as machines for the sake of Canopean power, and that their sense of themselves is limited to Canopean determinations of use-value. During a public meeting of Planet 8ers in a town square to plead with Johor to save them, Doeg observes,

[E]veryone around me seemed to be an automaton[.] [W]as it possible that was how we all looked and sounded to Canopus: automata, bringing out these words or those, prompted by shallow and surface parts of ourselves – for it was clear to me, as I stood there, that these demands and pleas were quite automatic, made by sleepwalkers. (P8 107)

Defined by Canopus, the Planet 8ers function as machines, existing in the 'shallow and surface parts of ourselves', restricted to pure mechanism with the life-force sucked out of them. This can be read as an intertextual reference to Marx's description of capital in *Capital Vol. I* as 'dead labour which, vampire-like, lives only by sucking living labour' (342). In this system, the lives of workers are defined only in terms of labour power, extracted by capitalism in an endless cycle, people reduced to utility. From a Canopean perspective, their surplus-

value had been the genetic material they will one day contribute to the hybrid species the Canopeans are planning to breed. Doeg's realisation that this is how the Planet 8ers seem to Canopus helps to break the psychological hold that the Canopean Agents have over the population, for whom the Planet 8ers are simply machines that have fallen into disrepair. As his fellow Planet 8ers plead with the benevolent master, Doeg realises that they are now irrelevant to Canopus, having no more meaning than spare parts no longer needed.

### **Peripheral Speculations: From Dead Labour to Vital Politics**

At this point, the narrative departs from what I read as a critique of First World abandonment of Third World beneficiaries, to consider the metaphysical experience of living outside the governing logic of this world-system, and the radical epistemic break with an inheritance of a biopolitical, anthropocentric economy that such a moment might produce for a peripheral nation. Doeg's anger at Johor passes. This is not because the text is dismissing the efficacy of anti-colonial resistance, but rather suggesting that systemic change will arrive only by a radical adaptation of inherited epistemic formations. In *Hegemony and Socialist Strategy* (1985), Ernesto Laclau and Chantal Mouffe argue that social struggles run into difficulty when directed against 'simple empirical referents'; they use the examples of 'men' when deployed as biological referents in feminist struggle (132). Choosing a referent against which to set the struggle – in *Planet 8*, Johor as Canopean agent – prevents the development of antagonisms such as 'the struggle for freedom of expression or the struggle against the monopolisation of economic power', which affects both men and women (132-3). Laclau and Mouffe argue that this is a common feature of anti-colonial struggle, given that, 'in the Third World, imperialist exploitation and the predominance of brutal and centralised forms of domination tend from the beginning to endow the popular struggle with a centre, with a single and clearly defined enemy' (pg no). If Canopus – and Johor – are identified as the 'clearly defined enemy' in this analogy, for Laclau and Mouffe this would obscure the fact that the very



constitution of the Planet 8ers against this enemy is itself a fiction, a 'floating signifier', 'like any other social identity' (141).

While the Planet 8ers realisation of Canopean violence could have led to an anti-colonial movement along the lines of a kind of nationalism, empowering a collective identity pitched against the colonial one, *Planet 8* circumvents the discourse of nationalist politics by shifting the narrative focus away from Johor as an object to mobilise against. In doing so, the text both recalls and departs from what Frantz Fanon identified as a stumbling block to national liberation in *The Wretched of the Earth* (1961): calling upon an indigenous heritage to demand recognition as national bodies. Fanon observes the tendency of 'cultured individuals of the colonized race' to support the claim to national liberation by reviving or referring to a pre-colonial native history; this is usually unsuccessful as a counter to the colonial claim of barbarism (the absence of historical record), partly because 'the ideas expressed by the young colonized intelligentsia are widely professed by specialists in the mother country' (Fanon 168). Claiming a native history in order to counter the charge of barbarism is simply replacing one form of destruction with another, given that imperial anthropologists have already invented this native history, and that further recourse to it would simply add to further co-option.

Restoring a lost origin – 'discovering beyond the misery of today, beyond self-contempt, resignation and abjuration, some very beautiful and splendid era whose existence rehabilitates us both in regard to ourselves and in regard to others' (Fanon 169) – cannot be done within the constraints of nationalism, or by inventing a pre-colonial 'African' culture to address the need 'to exist side by side with the European Cultural Society' (173). For Fanon, the effort of decolonisation would have to encompass the Black world as a whole, on the basis of regional difference rather than homogenised custom, 'to use the past with the intention of opening up the future, as an invitation to action and a basis for hope' (187). The stakes are this: that 'the contention by colonialism that the darkest night of humanity lay over pre-colonial history concerns the whole of the African continent' (170). What Fanon understands by 'culture' is not marked off with 'fences and signposts', reduced to custom, ritual, and 'mummified fragments',

but rather the 'hidden life, teeming and perpetually in motion' (190, 180). Systemic change would involve breaking the episteme of custom as fixed inheritance to culture as (something like) motility. It would require, following Laclau and Mouffe, recognising the metonymy of the social (that it is constituted by signs standing in for 'truth' – 'nation', 'people' and so on), in order to undo the regulation and ordering of colonised space into articulated units of labour power, resources and territory.

Lessing uses the metaphor of biological creation in order to show the impossibility of return to a pre-colonial context, and the necessity of re-imagining the epistemological inheritance of colonial world-building. By depicting the Planet 8ers as creations of Canopus, without origin, the task of demonstrating a 'Planet 8' culture (the task of making a representative for Planet 8) is given to the present, to what exists. This is why the problem of resisting against an origin is articulated in the first pages of the text; Lessing is showing the difficulty of subverting 'existence' away from 'origin'. Fanon's vision of a 'black world' can be read figuratively into *Planet 8* as a means of transforming the social organisation imposed by Canopean imperialism. This would do away with regionalism based on North/South, First and Third Worlds, and the economic inequities manifesting from dividing the globe into spheres of development. It would undo a political economy of resource distribution based on the calculations of world powers. The Planet 8ers begin to use their resources to reconstitute their relation with and to the world around them, rather than waiting on the margins of empire for a utopia that will never arrive.

### **Junk DNA and Jumping Genes: Epigenetic Responses to Climate Change**

In *Planet 8*, the metaphor of biological creation is extended into the epistemic reformulation of empirical objects, semiotic reconfiguration in a Peircean sense, in which adaptation (epigenetic poiesis) involves the translation and interpretation of semiotic relations at the level of ecology or biome. Considered this way, different criteria for 'survival' emerge, beyond the neo-Darwinian

(profoundly economic) ideal of reproductive success restricted to individuals passing on an inheritance. Instead, we could take as a starting point the stable metabolism of a given system, not restricted to categorising individual organisms as the prime subjects. This allows a suspension of empirical referents such as 'body', 'cell', 'molecule' and 'ice', and thus a much broader vision of semiotic interactions in a given ecology. Firstly, the aim of the Planet 8ers is not to reproduce; this desire leaves them fairly early on. Rather, their aim is to recover equilibrium in a rapidly changing environment. This concurs with Fahim's argument that 'striving to regain equilibrium' is fundamental to the narratives, but departs from her claim that it is the 'solution' to the problems raised. Rather, through this striving, the possibility of adaptation emerges, by chance. In a discussion of entropy, philosopher-chemist Isabelle Stengers calls this 'far-from-equilibrium' (244), which she understands as a moment of radical possibility, in which 'the very identity of the system can be transformed', producing a 'new configuration of requirements and obligations' that make up a system's 'self-organisation' (244, 245). In semiotic terms, this transformation necessitates some unforeseeable loss of meaning, as regional significance falls into disuse. These two moments, as the interplay of dyadic and triadic semiotic constellations risking loss, mark a site of adaptation.

Through the crisis affecting Planet 8, referents that articulate Canopean epistemological categorisations – 'human', 'animal', 'individual', 'population' – are reconfigured into what Thacker might call a 'molecular-wide' perspective. This is not just an intellectual process for the Planet 8ers, but a means of survival, brought out by necessity through their experience of the crisis. The terrain that opens to the Planet 8ers can be read as a landscape of junk DNA – noncoding genomic material that affects genetic expression. These silences refer to that which has not been programmed by Canopus, what their genetic programming does not prepare them for, their gaps in self-understanding, and the vast spaces between what is expressed and what is not. They are the silences of unexpressed possibilities. Having left their bodies behind, the Planet 8ers are able to 'comprehend', for the first time, the possibilities of their existence:

When we looked back to that huddle of bodies under their piles of dirty skins, to see how far we had travelled from that mountain peak, we saw them as webs and veils of light, saw the frail lattice of the atomic structure, saw the vast space that had been what in fact we mostly were – though we had not had eyes to comprehend that, even if our minds knew the truth. (P8 157)

This is a strikingly epigenetic description of biological matter: the ‘vast space’ resembles post-genomic descriptions of non-coding or junk DNA. This vast space is not registered as abyssal or as infinite, but as mobile. Rather than being determined by the genes they have been programmed to express by Canopus, the Planet 8ers are now able to perceive many alternative modes of living.

How might this idea of unexpressed junk have come into Lessing’s writing of alternative ways of understanding bodily experience? As I discussed in the Introduction, the 1970s were important years for epigenetics, specifically for research on non-coding material in the genome, unsettling the orthodoxy of Francis Crick’s Central Dogma (1958). What I read as epigenetic textuality in *Planet 8* can be read as part of the growing attention to epigenetics in this period in and outside the life sciences, in which research on the mechanisms of adaptability and the mystery of genetic ‘decisions’ and environmental interactions were not only being debated, but also recognised by global institutions. In the late 1970s, Richard Roberts and Phillip Sharp discovered split genes, introducing the conundrum of junk DNA and its possible functions. This, Evelyn Fox Keller argues, threw a ‘monkey wrench’ into the concept of the gene as a discrete unit (59). Split genes, or ‘interrupted genes’, are spliced into coding and noncoding segments of mRNA (messenger RNA)<sup>10</sup>, called, respectively, ‘exons’ and ‘introns’; or, in Jablonka and Lamb’s words, ‘the DNA sequence coding for a polypeptide is often a mosaic of translated [exonic] and nontranslated [intronic] regions’ (66). Exons are expressed as proteins, and introns are not – they are removed prior to the translation of RNA to protein by

---

<sup>10</sup> Messenger RNA are RNA molecules that transport genetic information from DNA to the ribosome, giving the amino acid sequence for the protein products of gene expression.

the 'spliceosome' process. While introns were presumed not have a function, they explain in part why a relatively small number of genes can code for an enormous diversity of proteins in animals. They are 'epigenetic' in the sense that they are not coded but are involved in gene expression regulatory functions, such as exporting mRNA from the nucleus to the cytoplasm (mRNA export), and in forming a surveillance pathway that reduces errors in gene expression by eliminating mRNA transcripts that contain 'nonsense codons' (nonsense-mediated mRNA decay).

Introns are one example of what Barbara McClintock calls mobile genetic elements: genetic material that moves within the genome. Different parts of RNA transcripts can be spliced together at different intervals, meaning that 'one DNA sequence can give rise to many mRNAs and protein products' (Jablonka and Lamb 66), crucially, 'deciding' which polypeptide will be formed depends on developmental and environmental conditions, and the other genes in the genome. Introns represent the vast amount of possible responses to a given environment contained within the genome; they in part account for the molecular diversity of a relatively small number of genes. McClintock's notion of transposition – transposons, or jumping genes – challenged Francis Crick's suggestion of a unidirectional flow of information in the Central Dogma. Rather than the linear model – DNA transcription leading to RNA translation to protein – McClintock's research motivated the following speculation: 'If parts of the DNA might rearrange themselves in response to signals from other parts of the DNA, [...] and if these signals might themselves be subject to influence by the external environment of the cell,' this would mean that information would 'have to flow backward from protein to DNA' in order for the sequence of genes to 'depend on factors beyond the genome' (Fox Keller 9).

*Planet 8* transmits these innovations in genetics into speculative fiction, with regard to environmentally-induced gene expression undermining the deterministic model of life put forth by the Central Dogma, and rupturing the idea of a one-way flow of information from nucleus (core) to cytoplasm (periphery), figured through the Canopean genetic engineering. The Planet 8ers go from being imperial objects for future resource extraction to molecular

subjects, blurring the divide between ‘molecular’ and ‘human’ life, presenting a complex picture of response and adaptation. This happens through two conceptual tropes of epigenetic research: first, the silences of unexpressed possibilities; and second, the movement of the Planet 8ers through physical space and metaphysical thought. As they move through their changed environment, their epistemological understanding of ‘nature’ is altered, with regard to how they are constituted by and constitute the world around them, not in negation of their Canopean inheritance, but not restricted by this programming.

The Planet 8ers rearrange their perception of their surroundings, responding to the climate change in a valence of biological and epistemological, or biosemiotic, adaptation. Looking out over the lake around which they have been accustomed to gather, now frozen, Doeg relates, ‘we could see, far over the mountains on the other side of the water, a light greyish blue sky that seemed still to smile’ (P8 48). This anthropomorphic vision of the atmosphere, creating the sky as a person or a spirit, is not an image bestowed by Canopus, who has taught them by this point to fear the elements and protect themselves against external threats (most aptly shown by the order to build a wall). This is also not the ‘smiling silence’ of Johor in response to their attempted rebellion. Their perception of the smiling sky reflects a choice to perceive the world differently. Doeg then notes, ‘Populations under threat know silences that they understand nothing of in lighthearted times’ (P8 48). For them, the silence before the crisis was Johor’s silence in response to their rebellion. It was the silence of sovereign power and the impossibility of overcoming it, the noise of peripheral Planet 8 formulating a set of demands, in contrast with the silence of the colonial agent in a position to say nothing and to grant no favours. Post-crisis, the perception of new silences reposition the Planet 8ers as central to their own narrative, not in relation to the silences of their creators, but in the midst of an abyssal terrain. These ‘silences’ that they now are aware of can be read alongside genomic ‘silence’ as the introns that stand for evolutionary flexibility, and the genes that have been silenced by the engineering of Canopus. Doeg articulates a growing collective awareness of what is not expressed, what is silent and silenced; while

Johor might want to save them, the careful programming of Canopean interests means that he cannot, recognising all the while that they have not been programmed to survive this sudden atmosphere change, that there are silenced parts of the Planet 8ers for which Canopus is responsible.

The Planet 8ers' perception of life itself begins to change, along with their understanding of what 'survival' might constitute. In a scene that mirrors Johor's inability to save the Planet 8ers, the Planet 8er Alsi sits with the Planet 8ers domesticated animals, mourning their gradual extinction. She tells Johor, 'there are no young things left on our planet', and that despite her efforts, she 'cannot make them breed' or 'change what they are feeling – or what they know' (P8 116). Through the analogy of domesticated animals, Alsi articulates Johor's dilemma: by breeding a population for specific purposes in particular genetic combinations in order to prop up an economy centred around sustaining human life over and above all other kinds of life, and by transporting this population to another ecosystem, Canopus has dramatically reduced the chances of this population being able to survive a massive climate change. Just as the little animals that Alsi cradles 'could not endure their lives' and would die soon (P8 116), so the Planet 8ers cannot survive the cold. Yet this reading of extinction works only if life itself is reduced to individual utility and reproductive success, the same criteria that Canopus uses to make their determinations.

As Berger argues in his essay on peasant survival, the peasant community of Planet 8, determined under the Canopean system of biopolitical labour extraction, see their lives as 'an interlude'. This understanding of life is bound to what Berger calls a 'cyclic view of time' composed of birth, life and death, in which the peasant must only 'hand on the means of survival [...] to his children', while 'his ideals are located in the past' and 'his obligations are to the future, which he himself will not live to see' (Berger 189). This is a radically different understanding of time than that in which the Canopean agents function, which is more or less unilinear and chronological, characterising a 'morality based on cause and effect' (Berger 189). Cyclic time, on the other hand, is 'simply the trace of the turning wheel' (Berger 189), and the peasantry lives in a dual movement between certainties of past and future: that there is something to pass on, and

that it will be passed on. This, argues Berger, is the temporal logic of the peasant's survival.

As the Ice falls on *Planet 8*, the conception of inheritance, expression and living transforms among the planet's human inhabitants. They begin to move away from understanding their lives as interludes in a cycle of birth, life and death, and to understand that the surplus extracted by their rulers might be redirected for passing something different or even transformational to their children. Doeg relates,

We were learning, we old ones, that in times when a species, a race, is under threat, drives and necessities built into the very substance of our flesh speak out in ways that we need never had known about if extremities had not come to squeeze the truths out of us. An older, a passing, generation needs to hand on goodness, something fine and high – even if it is only potential – to their children. (P8 38)

This description can be related to epigenetic activation at a time of extreme climate change, and also the recognition of potential to survive that they did not previously recognise. More than this, this might be transmitted to their offspring through gene memory – not through mutations, but through the genetic memory of biological effects marked onto the material through the silencing or, in this case, the activation, of particular parts of the genome. These activations are bound up with the social requirement to adapt and survive. These new expressions trace the repositioning of boundaries between the Planet 8ers and their environment, who recognise for the first time both the vulnerability of their situation and the previously silent possibilities within them for survival.

The reconfiguration of epistemological boundaries between organism and environment takes place in a register of restlessness, through the journey a group of Planet 8ers make around 'our planet', during which the bond of possession between human and environment is unravelled into a diverse economy of molecular life. Their movement, therefore, makes possible a change in their relation to the environment. Exhausted, they nonetheless make the journey, as



if it will save them from their impending extinction, because ‘we felt some kind of restlessness [...] a need to press on from place to place, as if elsewhere we could come on something that might aid us’ (P8 64); they are ‘keeping, and in a conscious effort, our knowledge of our own possibilities, our potential for the future’ (P8 63). The words ‘possibilities’ and ‘potential’ are being used in an analogous way to the way that Canopus describes them, but with a crucial difference: they are moving in order to realise this potential; their restlessness is a possible means of expressing it. Whereas for Canopus the population of Planet 8 is a vast, static reserve of genetic programming guaranteed for their exclusive use that might help them achieve a pre-determined potential at a later date, the Planet 8ers are using potential in a mobile and contingent sense, making the journey without any guarantee that the silences of their programming will be activated. By undertaking this journey *with this potential in mind*, in view of rediscovering it or activating it, the Planet 8ers depart from their construction as Canopean genetic ‘goods’, in view of the possibility that they might activate a previously-silenced possibility.

This is where I read the historical analogy of the African Crisis during the 1970s being incorporated into a biosocial speculation on the possibility of systemic change in post-colonial territories, and what this change might entail. The form of the novel – one long narrative chain – captures the ongoing sense of this change, tracing the movement as a continuous one; it is a question of considering a direction to go in, a choice. The movement of the Planet 8ers, holding the knowledge of their potential, enables them to remake a world previously determined by their colonial rulers. Their journey around the planet following the crisis is the second such journey; the first took place with Johor leading them. Now they go alone, and it is difficult: ‘The journey took us twice as long as when we had travelled with Canopus, and we were cold and torpid, and felt the need to sleep’ (P8 64). Without Canopean guidance, their sense of the world changes, and surviving becomes more challenging.

However, the narrative stages the question of whether it is Canopus’s abandonment that is the problem, or the fact that they have engineered a population completely reliant on them for survival. If it were a case of the first,

then the solution would be for Canopus to save them, and their failure to do so would be the narrative focus of the text; indeed, the Planet 8ers ask Johor again and again to do so. Yet by not making this the focus, the broader, structural crime emerges: that Canopus has constructed itself as the centre and determined the value of life – preservation and abandonment – on the basis of its imperial topography. The Planet 8ers are being abandoned because in the Canopean (inter)world system, there is nowhere for them to go. The possibility of the utopia they planned to cultivate on Rohanda has been destroyed by the crisis. To do anything else but abandon these populations and wait to build up the centre once more would be to give up Canopean centrality. The text shifts the focus away from Canopus and through this, states the problem – the necessary endgame – of colonialism: that in order for the core to be sustained, the peripheries might have to become extinct – both economically and biologically. Lessing renders the figurative cost of this kind of power in a literal mode; she looks at the human cost.

Yet the text departs from the fatalism of extinction by shifting gear into a narrative speculation on molecular life, and the potential use of scientific knowledge for subaltern emancipation. The Planet 8ers go on their second journey when their energy is at its lowest, when all around them other Planet 8ers are sinking into the snow and giving up, languishing in the cold and the ice, or killing each other in the cities. What do they envision they will find in the snow to aid them? The help they seek is the cultivation of different relations to the planet, rather than relying on Canopean knowledge, detaching themselves from Canopean dependence. Doeg narrates, ‘we dozed there as if we were one organism, not many – as if our separate individualities had become another burden to be shed, like unnecessary movement’ (P8 64), articulating a relation of sharing between the Planet 8ers. Whereas Johor’s interactions with the Planet 8ers have been up to this point based on the premise that each Planet 8er has a function and role – Doeg the storyteller, Marl the breeder and so on – the journey allows them to suspend these demarcations of individual existence for the first time, defined not through Canopean-influenced denominations of individual labour but as a collective. Correlating individuality and ‘unnecessary movement’

as burdens that need to be shed refers to living under the strain of colonial determinations of their existence, and – importantly – realizing it as such. ‘Unnecessary movement’ is the unnecessary waste of labour-power and resources that Johor demanded when telling them to construct the wall. Their movement around the planet, however, is a decision made at the point at which they know they are alone. For them, there is no longer any centre but that of their own creation.

### **Transcending the Centre: Two Journeys in Peripheral Extremity**

There are two intertexts running through *Planet 8*. The first is named by Lessing in her ‘Afterword’ to the text: the accounts of Robert Falcon Scott’s two expeditions in the Antarctic, the first from 1901 to 1904, and the second from 1910 to 1913, from Scott’s diary and the memoir of his fellow explorer, Aspley Cherry-Gerrard, *The Worst Journey in the World* (1922). It is not the snow and ice that so much interests her, she writes, ‘but rather some social processes of that time and of this, so strongly illuminated in the expeditions’ (P8 162). The point, she explains, was not to write a novel about these expeditions in any literal (historical) sense, but to draw an equation between polar exploration and ‘any extreme of climate or geography or behaviour’ (P8 162). The idea is, then, responding to extremity, negotiating one of the most hostile environments on Earth, but also imperial nationalism. She writes that she first heard about Scott’s expedition ‘in the middle of Africa, in the old Southern Rhodesia, now Zimbabwe, on my father’s farm’ (P8 164), situating her receipt of the story in a paradigmatic location of colonial territorial acquisition. ‘The middle of Africa’ means, in this context, an outpost of empire, so the heat of the Bush and the cold of the Antarctic are not in opposition here; Lessing is drawing an equation between two sites of exploration, and two sites created through the colonial

accounts of them, with no other history save that determined by the imperial centre.

The second intertext is not named, but nonetheless emerges through the prose repeatedly: T. S. Eliot's poem, 'Journey of the Magi' (1927). Speaking about the coming of the ice that will 'pres[s] down in great sheets and will rise against the wall,' Johor tells the Planet 8ers, 'You may have a hard time of it, surviving' (29), echoing Eliot's first two lines, 'A cold coming we had it, / Just the worst time of the year / For a journey' (1-2). The Planet 8ers know that they have entered the time of a 'new dispensation', a phrase that is used twice; Eliot's Magi feel 'no longer at ease here, in the old dispensation, / With an alien people clutching their gods' (39-40). The intertext conjures a realm falling away, a civilisation dying out, old rituals becoming irrelevant. Something has arrived; for the Magi, it is their own death, and the question at the heart of the poem is, 'were we led all the way for / Birth or Death?' (33-4) Something has been born, but for them it signals their own death, a 'Hard and bitter agony for us, like Death, our death' (37). Read alongside *Planet 8*, the implicit violence of Eliot's poem comes into relief: that in order for a new dispensation to take its place, the old must give way, must accept its own extinction. The Magi bearing gifts have been led to their own death, for the sake of a birth that renders all the certainties of their existence irrelevant.

This dying is not just a physical matter, but also a matter of influence; it is the death of a system, and a reconfiguration of planetary relations under the sign of certain death. By suspending the image of hearing the story in Africa, and Scott's expedition in the Antarctic, Lessing also maps two sites of imperial abandonment: the abandonment of Rhodesia by the British government in the 1960s, and subsequently the abandonment of Zimbabwe and other sub-Saharan African countries by international funding bodies during the 1970s and the 1980s. Scott's team was 'shamefully neglected' by the British government, in Lessing's words, which for her symbolises a 'niggardly short-sightedness [that] seems for some reason a perennial characteristic of the British government' (P8 172). This left Scott with 'an inadequate and dangerous ship', and a team that was ill-

prepared, without extensive experience with snow and ice and dog handling (P8 176, 172). Lessing notes that while the Norwegian explorer Roald Amundsen's book 'describes in a sensible non-boastful way a sensible and efficient expedition', and is 'quiet in tone, and practical', the records of the Scott expedition put the reader 'at once [...] in a different world' (P8 172).

Lessing finds in the accounts of Scott's expedition, despite the inadequacy of funding and preparation, a motivation that went beyond 'duty to England, God, science and their best selves'; rather, to Lessing, the first driving force of the expedition was that 'they were engaged [...] in an attempt to transcend themselves' (176). This motivation is an analogy for something else, or a metaphor or echo of 'evolvments and happenings going on in other people [...] or animals [...] even forests or oceans or rocks [...] in this world of ours or, even, in worlds or dimensions elsewhere' (190). The transcendence of the British explorers comes not through the journey itself – otherwise why give more emphasis to Scott's than to Amundsen's, but in the way in which their narratives of struggle open into a metaphorical dimension of experience, in which the stability of human mastery over the planet is undermined – and that this is a deliberate strategy for transcendence. Abandoned, the British team were prepared to die, and in so doing, get beyond the mythology of mere nationalism – 'these Kingdoms' of Eliot's Magi – to another kind of ecological existence: 'I should be glad of another death' ('Journey' 41). This transcendence would not be a spiritual one, however, but the overcoming of a certain restricted ethical possibility for life itself into what Haraway calls 'transspecies love'.

### **Microscopes, Molecules and Peripheral Life**

I have argued that the adaptation at work in *Planet 8* involves the extension of categories of life itself, and that the Planet 8ers exist as both human subjects and molecular conglomerations. This is a way of drawing together post-colonial struggle, anti-nationalism and a new political realm for 'life itself' in terms of molecular existence. Yet this last construction has difficult ethical implications: can there be an ethics of molecular life? The answer given by Eugene Thacker is

yes, but that this would involve a reconceptualisation of what constitutes 'life itself', and rearrangement of the social. In 'Biophilosophy for the Twenty-First Century', Thacker names three philosophical paradigms for life itself, in roughly chronological order: soul (Aristotle), meat (Descartes) and pattern (postmodernism), which together 'form a trinity' that is also a triptych, with soul in the centre, meat on the right, and pattern on the left; this is 'an image of thought that continuously switches, swaps, displaces, and replaces the placeholder that defines life: from *psyche* to mechanism and animal electricity, to the "gemmules" and "pangens", to DNA and the "code of life"' ('Biophilosophy' 123). Getting away from this construction/reduction of life would mean departing from, on one hand, the division, ordering and interrelating of species and types (the 'inward-turning aspect' of this thinking), and on the other, detaching from the 'immunologic' of border control and boundary management, which marks out an individual through the self-nonsell distinction ('Biophilosophy' 124).

The categorisation of living forms into species and types is only sustainable when the self-nonsell distinction can be upheld. As soon as it begins to unravel, so do the divisions of biological existence into genera, species and so on. Thacker uses the example of an epidemic which 'cannot be limited to an individual organism, for its very nature is to pass between organisms, and increasingly, to pass across species borders (and national borders)' (124). Considering the effect of transmission and movement of biological life that is not reducible to the description of organism, such as microbes, epidemics, swarms, packs, flocks, biopathways, parasitism, and so on, rather than centring life within discrete units of existence, the distinctions that uphold the division between social organization and ecological organization are compromised. Rather than thinking life as an essence or an organizing principle, Thacker writes, 'what about considering life at the peripheries? Extrinsic life, a life always going outside itself, peripheral life' ('Biophilosophy' 125).

For Thacker, the affective-phenomenological, the biopolitical and the politico-theological conceptions of life allow only what he calls 'an ambivalent conjunction of biology and politics,' which has been extended 'across broad

swathes of social, economic and cultural existence' ('After Life' 32). His aim is not to devise a new ontology of life, but to change the framework of life itself, re-routing it away from that of Aristotle in *De anima*, which he describes as a 'two-fold framework of a principle of life (*psukhē*) and the bifurcation between Life and the living' ('After Life' 34). This account of life is an inheritance borne through Western philosophy, 'highly stratified, the view down from on top of a pyramid of increasing complexity' ('After Life' 40), the concept that the Planet 8ers inherit from Canopus in their treatment of fellow living beings and the planet around them. While this has been challenged to a certain extent by 'vitalist contradictions' – he cites Henri Bergson's synthesis of mechanism and vitalism in *Creative Evolution* (1907) and, after him, Gilles Deleuze and 'a concept of life that is defined by immanently dynamic, self-organizing and germinal qualities' ('After Life' 32) – nonetheless 'we remain under the spell of [Aristotle's] framework whenever the question of "life" is raised' ('After Life' 39).

Thacker finds a political challenge to *De anima* in the weird fiction of H. P. Lovecraft, where the idea of life in outer space ('an absolute exteriority') causes 'the notion of life to fall apart' ('After Life' 40), I would suggest that Lessing's vision in *Planet 8* is comparably destabilising. Lessing's absolute exteriority is based on life not lived, what is not-life, made perceptible in the dimension of the living; in Thacker's words, a 'world "without us", the life *sans soi*' ('After Life' 40). This is the vision of life that the Planet 8ers reach towards the end of their account. It comes about through using the resources dispatched by Canopus – the microscopes – through which they see that they are part of a molecular world, and that their image of themselves as finite beings with beginnings and ends is 'an illusion'. This changed perception does not alter their diminished desire to reproduce, but it does change the significance – the meaning – of their extinction. That is, it shifts the focus of existence from species survival to a re-configuring of decay and death.

Alsi tells Johor that she remembers the moment when a certain kind of 'naturalness and pleasantness ended' in her childhood, and that 'it was when you, Canopus, brought the instrument that made small things visible' (123); that is,

when Canopus delivered microscopes to the Planet 8ers. Looking into the microscopes, Alsi relates,

[W]e saw the substance of our bodies, and found that it vanished as we looked, and knew that we were a dance and a dazzle and a continual vibrating movement, a flowing. Knew that we were mostly space, and that when we touched our hands to our faces and felt flesh there, it was an illusion, and that while our hands felt a warm solidity, in reality an illusion was touching another illusion. (P8 124)

The basis of their social organisation is rearranged by the arrival of the microscopes. By making the existence of smaller elements visible, the microscopes open other worlds beyond their inhabitation of a planet of which everything they know and with which every relation has been determined by Canopus. They step out of their genealogical 'circle of their parents and friendly adults' to gather together, finding that 'our selves, that the ways we experienced ourselves, were all illusion' (P8 125). The repetition of 'our selves' and 'ourselves' is important, as they constitute two kinds of self: the first is the sense of a self that is distinct and individual to itself, and the second denotes the questioning of species-life, the foundations of what the Planet 8ers understand about their own existence. Both are challenged by the arrival of the microscopes.

The microscopes make the silences of the Planet 8ers' genomes 'speak'. They introduce what Thacker calls a 'molecular-wide' perspective to the Planet 8ers presence to 'themselves' and on the planet, allowing them to escape themselves as colonised automata, reduced to number and function. Dying, they lose their 'old shapes', 'what we had been', but still 'mov[e] on together' as,

patterns of matter, matter of a kind, since everything is – webs of matter or substance or something tangible, through sliding and intermingling and always becoming smaller and smaller – matter, a substance, for we were recognizing ourselves as existent; we were feelings, and thought, and will. (P8 158)



The Planet 8ers turn the meaning of ‘matter’ and materiality into something different, not the physical forms that they have now left behind, but another kind of matter that moves among other substances. Their existence is not confined to meat, soul or pattern, nor some synthesis of the three; their existence escapes into non-life, into what is not liveable in any humanistic sense of existence. This experience is not ‘lived’ in any strict sense of a conscious or identifiable individual or body. In the final pages, the eponymous Representative is not Doeg or Alsi, but is named as ‘a conglomerate of individuals’ that ‘swept on and up, like a shoal of fishes or a flock of birds’; they no longer see ‘wastes of snow and ice, no, but a perpetual shifting and changing’; they see the planet ‘in a myriad guises, or possibilities’ (P8 159-60). This vision cannot be named as simply ecological or planetary, but reformulates the idea of individual death.

This molecular-wide perspective challenges ‘biological-biomedical’ definitions of life (Thacker, ‘Biophilosophy’ 133), and has implications for a renewed ethical relation with nonhuman and inanimate subjects. This perspective enables the Planet 8ers to consider their potential not in terms of mechanism or function, but in terms of ‘myriads’ of ‘unachieved possibilities’ of worlds, ‘each real and functioning of its own level [...] – each world every bit as valid and valuable as what we had known as real’ (P8 160). These are not parallel worlds in the sense of alternative dimensions, but worlds not lived. To return to the figure of intronic life, the dormancy of unexpressed genetic material is replaced by conceiving the silence differently, hearing potential as an always-already, rather than an end-goal.

## Conclusion

If, as I have argued, *Planet 8* is a survival narrative of a peasant population brought into existence through neo-imperial capital, it is also about the adaptation of this population at a point of ecological crisis out of what Berger calls ‘the cyclic time’ of birth, life and death, and towards a conception of

molecular life and its attendant temporal dimensions. The ethical implications of this would be to surround the concept of 'life itself' with a kind of delay, a pause, to interrupt its ongoing instrumentalisation by an expanding and annihilating world-system. The story of the Planet 8ers does not follow the model of anti-colonial resistance by which the new nation inherits the structural deficiencies and dependency of its colonial past, but rather seeks new forms of living through re-conceptualizing the criteria for 'life itself'. This is not to say that Lessing is promoting a kind of collective suicide or is giving up on the possibility of human-centred political action; rather, this vision would enable a different foundation for existence to emerge outside the core-periphery economic topography laid out by racial capitalism. It is an imaginary possible in speculative fiction, offering a way of conceiving of 'something like an unhuman politics' (Thacker 'After Life' 40). In the last chapter, I return to the question of democratic participation in a reading of *The Sentimental Agents of the Volyen Empire*, developing the idea of peripheral speculation in terms of psychological disorder, and the gradual rupturing of imperial typology enacted by biosocial relations of intoxication and contamination.

**INTERRUPTING AGENTS:  
CONTAMINATION AND INTOXICATION IN  
*THE SENTIMENTAL AGENTS IN THE VOLYEN EMPIRE***

Up to this point, my discussion has focused on the theory and effect of epigenetic processes and what Donna Haraway calls ‘the promise of becoming’ (84). In this chapter, I take as my starting point moments of being affected, exploring the way in which intoxication and contamination interrupt imperial diagnostic intervention in *The Sentimental Agents of the Volyen Empire* (1983). I explore how the final novel in the series manoeuvres between humanitarian intervention and chance interruptions, staging a critique of neo-imperial humanitarian intervention on one hand, and exploring the repeated frustration of Canopean aims by intoxicated or contaminated subjects on the other. The dementia caused by forgotten histories spreads to subvert the Canopean project. The contamination of modernity interrupts Canopus’s sovereign imperative to forget violent and destructive parts of its historical creation and to streamline the course of its influence into chronological inevitability. In biological terms, this influence figures as an innate and immutable essence transmitted through time. These disruptive moments arrive before system change, producing the disequilibrium that I have discussed in previous chapters. The figure of the virus motivates a vital politics, figuring as a trope of resistance to imperial governmentality. I return to my claim that Lessing’s space fiction opens an early critique of liberal multiculturalism as symptomatic of a control society in which subjects are tracked and monitored according to racial typology, opposing this with the political potential of an always-already contaminated subject, not reducible to racial type. I read the text as a consideration of democratic participation in satellite or peripheral states under neo-imperialism, and the way that psychological disruption can work to break this governance.

The trope of getting intoxicated, being affected, of ‘being carried away’, to use Andrew Benjamin’s phrase in his discussion of Walter Benjamin’s notion of intoxication (6), comes out through *Sentimental Agents*’ narrative of a loyal subject at risk of corruption by external influences. The intoxicated subject may seem to recuperate back to the status quo or point of equilibrium, but the disturbance created by intoxication unsettles the criteria of this equilibrium, and – in the case of Canopean agent Incent – forces him to recall forgotten colonial histories of violence and to question and eventually abdicate Canopean sovereignty. Rather than forgetting bearing ‘a joyous side,’ as David Punter, echoing Nietzsche, argues in his discussion of time travel in Lessing’s fiction (130), a certain kind of pleasurable melancholy makes possible a confrontation with the proximity of the past, and functions as an effect of adaptation. The narrative constructs the long history of Canopean Empire as an absence, continually interrupting regional ‘progress’ in the Volyen Empire; as Punter argues (following Freud), Lessing’s criss-crossing of timescales, made possible by the speculative vehicle of time-travel, ‘reveals that the past is not, after all, absent; that it is there ready to spring out unbidden and thwart the apparent logicalities of the chain of discourse’ (130).

Mel Chen has theorised toxicity as a figure for a materialist queer politics, and I explore Chen’s ideas alongside the idea of the virus as a possible movement that mobilises chance, and the possibility of epigenetic poiesis. In *Sentimental Agents*, the trope of intoxication disrupts two strategies of imperial governance when negotiating the possible infiltration of a peripheral resource (in this case, the invasion of a planet and its inhabitants), in economic and healthcare policies: first, protectionism and psychological rehabilitation, and second, immunity through contamination. The first involves diagnostic intervention in order to protect imperial influence from contamination, and the second promotes what Dean Spade and Craig Willse call a ‘multicultural imperialism’ in order to prevent the loss of biopower through violent retaliation to invasion, and to maintain sovereign dominion over identified (socio-political) ‘differences’ by reducing these differences to biological goods. These two ways of negotiating invasion are

undercut by a resistance to imperial power which appears as intoxication or contamination, a susceptibility to external influences.

Elizabeth Maslen argues that the novels of the series 'show a decline in [Canopean] powers through succeeding generations: Klorathy, the pupil of Johor, is more vulnerable than his master, while Incent, Klorathy's pupil, is more vulnerable still, indeed comically so' (56). This decline can be traced through the constant interruptions to Canopean interests, which I explored up to this point through failed eugenic experiments – as in *Shikasta*, or by unforeseeable climate change – as in *The Making of the Representative for Planet 8*. She also notes that 'timing is a keyword in *Sentimental Agents*' (45). Tom Sperlinger has observed the frequent appearance of narrative interruptions in Lessing's fiction, which, he writes, work as 'a disruption to an existing continuity, such as linear time' (140):

One function of the interruptions in Lessing's work is to insist on the repeated urgency of the present. [...] Lessing often writes about everyday events that rupture the patterns of everyday life. Such events happen on various scales in her fiction, including the arrival of a person (in *Memoirs of a Survivor*), an arranged marriage (*Marriages*), a nuclear war (*The Four-Gated City*), an ice age (*Mara and Dann*), or a change in the balance of power on a galactic level (*Shikasta*). Lessing's work is thus peculiarly attentive to the way in which the present continually interrupts the process of entering what was assumed to be the future. (140)

I explore this claim in *Sentimental Agents*, linking it to the implications it holds for the kind of interruptions that might produce epigenetic change. I focus less on epigenetic effects than these moments of interruption. Useful here are Benjamin's notion of intoxication in his description of the *flâneur* and his notion of *Jetztzeit* – 'time filled by the presence of the now' (*Illuminations* 252) – to frame the argument that Lessing's narratives produce an active resistance to Benjamin's description of progress as, first, 'the progress of mankind itself', and second, as 'something boundless, in keeping with the infinite perfectibility of mankind' and

as ‘something that automatically pursued a straight or spiral course’ (*Illuminations* 252).

In ‘The *Flâneur*’, Benjamin arrives at intoxication through a discussion of the nineteenth century fascination with physiology (studies of the mechanisms by which systems operate), describing it as a ‘petty-bourgeois genre’ which extends out of biology into urban studies to typologise (and thus familiarise) urban experience: *Paris la nuit*, *Paris à table*, *Paris dans l’eau*, and so on, and is ‘extended even to nations’ (35-36). Benjamin understands the interest in physiologies as part of the ordering of everyday life, citing Eduard Fuchs, on the ‘colossal parade of bourgeois life’ in which ‘everything passed in review’ (36), helping to ‘give people a friendly picture of one another’ and to help ‘fashion the phantasmagoria of Parisian life’ (38-9). Alongside the development of this culture of increasing visibility, made possible by technologies of tracking (photography), sites of indirect resistance emerge. For Benjamin, ‘the crowd’, ‘the newest asylum for outlaws’ is ‘also the latest narcotic for those abandoned’; the *flâneur* is ‘someone abandoned in the crowd’ (55). The crowd is a space of intoxication, ‘the intoxication of the commodity around which surges the stream of consumers’ (55). The nature of this intoxication is ‘empathy’, a total giving up oneself to ‘the buyer in whose hand and house it wants to nestle’, and following Marx, ‘like a roving soul in search of a body’ (55). Completely embedded in maintaining the circulation of commodities that characterises bourgeois life, the commodity/*flâneur* – abandoned in the crowd – is uniquely positioned to escape and resist the tracking and ordering of physiological practices, and to become consumed by context.

In contrast to the crowd, the diagnostic gaze of humanitarian intervention – which decides what the disorder is, how it functions and how to proceed – is a way of maintaining the linear time of ‘progress’ on ‘a straight or spiral course’, to follow Benjamin. It maintains the sovereign power of the intervening nation, and supplements their disproportionate influence over the world-system. Breaking this would also mean breaking into this linearity, pushing against the irrevocability of a diagnosis that withdraws agency from the diagnosed subject.

Contamination and intoxication are suspended states, where medical knowledge is not yet deployed. In *Sentimental Agents*, they function to open the ostensible absolutism of Canopean intervention to chance interruptions. As Benjamin introduces a nineteenth century fascination with physiology to reach a discussion of cerebral intoxication interrupting ‘the colossal parade of bourgeois life’, Lessing plays with boundaries of physiological and psychological typologies of disease and disorder in her construction of symptoms that resist diagnosis, contaminate the diagnostician, and disrupt imperial surveillance.

Making this argument involves a slight pivot in my theoretical focus, wherein epigenetic poiesis can be understood as a biological analogy for the disruptive force of silenced or repressed memory. Despite Klorathy’s repeated attempts to dismiss counter-histories of imperial violence as historical anomaly, they continue to be expressed – whether directly or in the various moments of breakdown. The threat or manifestation of intoxicated subjectivity interrupts the colonial agent Klorathy’s first-person narration. While I have focused up to this point on how the novels resist the reduction of the architecture of the human subject to the expressed parts of the genome, here I explore how moments that precede epigenetic poiesis can be figuratively likened to the intoxicated empathy of the *flâneur*, with regard to his vulnerability and openness to chance, context and change. I argue here that this openness leads the Canopeans into breakdown, making them unable to adhere to the constituted protocols of the present.

While Klorathy focuses either on rehabilitating individuals or on preserving what he sees as the genetic diversity of the planet’s population, his efforts are continually disrupted by an unpredictable, invisible force, transmitted between subjects and emerging at points in the narrative where his reports break off. Given that this text follows *The Making of the Representative for Planet 8*, the choice to narrate it almost exclusively through the perspective of a colonial agent – rather than an inhabitant of the planet – can be read as a way of making palpable the silences of the text as well as the weaknesses in colonial agency, the lack of accounting from members of the peripheral planet, the fragmentation and frustration of Klorathy’s humanitarian efforts, and his inability to locate the

origin of continual disruption. After the testimony of the Planet 8ers, the narrative silence of the Volyens – their omission from the first-person narration – stands out.

Planet Volyen is of peripheral interest to the Canopean Empire until it is under threat of invasion from the Sirian Empire. Klorathy has been sent to check up on Incent, the Canopean agent stationed on this planet, the colonial diplomat stationed in a peripheral nation who finds themselves at the centre of a storm of competing imperial interests. The text is constructed through a series of field reports and historical entries written by Klorathy, the first to Johor, and the second for Canopean history. This topographical direction of information is significant, as it immediately situates Klorathy's mission within the broader interests of Canopean imperialism, both in terms of immediate control and the framing of another planet's history through Canopean focalisation; that is, every piece of information is considered by Klorathy to be either of immediate political interest or long-term historical interest to Canopus. Also significant is Klorathy's reappearance: the last time the reader encounters him is as Ambien II's mentor in *The Sirian Experiments*. *Sentimental Agents* revisits Klorathy's role as mentor/therapist, but while in *The Sirian Experiments*, Ambien II's narration focuses almost obsessively on Klorathy as an example of Canopean benevolence, here a less sympathetic version of Klorathy emerges.

On one hand, Klorathy's treatment of Incent represents a fascistic, sociobiological protectionism at work in Canopean domestic policy. Finding Incent more sympathetic to the influence of an agent from the rival contaminating imperial force, Shammat, Klorathy 'treats' him (medically and socially) as if he is on the cusp of defection. According to Klorathy, Shammat's influence may make Volyen more susceptible to invasion by the Sirian Empire, now in its final throes and expanding without caution or care. In *The Sirian Experiments*, Shammat is described as the cause of social degeneration, carrier of disorder, whose influence on a society will lead to chaos and devastation. Arriving on Volyendesta, Klorathy observes Incent's symptoms, reaches a diagnosis of 'Rhetorical Disease,' and sends Incent to the Hospital for Rhetorical Diseases as a proposed cure; following this, he continues his observation of



Incent through post-treatment check-ups. Through this treatment, Klorathy is attempting to restore an essence of Canopus in Incent, and to erase any other influences. The first paragraph of the first report ends with Klorathy's frustration at the 'self-destructive dementia' that 'permanently afflict[s]' the populations of the planets to which he is sent (SA 11). This sets the tone for the rest of the text, as at no point does Klorathy as character question his own role as observer, the history of imperial subjugation and/or surveillance and its psychological effects on those it subjugates. Klorathy travels the galaxy, above all, with a sense of Canopean supremacy. The interruptions of the narrative stage this history where Klorathy does not.

This ongoing reiteration of Canopean supremacy works in tandem with another mechanism of sovereign power: historical amnesia, another kind of dementia, or what philosopher Rebecca Comay has called 'legally mandated forgetfulness', by which a state ensures social stability through 'enforced amnesia', thereby breaking 'the traumatic hold of the past' and suspending 'the deadlock of inter- and transgenerational violence' (240). This amnesia is signalled by Klorathy's rapturous praise of Volyendesta's multiculturalism later in the text, and his happy observation that there is 'no general sort or type', but rather that the planet's assorted history of invasion, settling and protection has resulted in a public sphere formed by 'every conceivable mix' of various genetic characteristics (SA 209). This praise forgets the historical life-cost of this mixing, while simultaneously employing hybridity as a conceptual weapon against further losses; the traumatic past resurfaces, but as Klorathy's wish that violent domestic uprising against the oncoming invasion not destroy this multicultural collectivity.

Multiculturalist discourse reappears as a tactic of imperial surveillance and ordering, rounding off its introduction in *Memoirs of a Survivor* and *Shikasta* as a paradigm of governmentality for a post-colonial control society. Klorathy defines difference as genetic/phenotypical diversity; through this concept of difference, he continues the legacy of imperial anthropology, as 'genetic' multiculturalism only makes sense under the sign of taxonomic classifications of social life into different types of humans, continuing the legacy of imperial

racism and racialisation. There may not be one general type on Volyendesta, but Klorathy's gaze is embedded in the division of human life into arbitrary categories of observable characteristics. Klorathy's combined strategy of protectionist rehabilitation and multicultural imperialism along the uneven lines of core (Canopean) and peripheral (Volyen) borders is repeatedly interrupted by a force of intoxication. Each time Klorathy's reports end in some articulation of his failure to cure, or some anxiety about his own susceptibility to external influences, or the denial of an ending to Incent's narrative, the work of this force emerges, invisibly, undoing Klorathy's efforts without any political presence.

Contamination appears to Klorathy as a site of disembodied resistance, a force that pushes his efforts into failure; I read this final text, then, as a coda to the more directly political narrative of *Planet 8*. If *Planet 8* stages the emergence of political consciousness among oppressed subjects of imperial domination, then *Sentimental Agents* threads this consciousness as a kind of translucent spectre which pulls the imperial project away from completion or satisfaction. The series does not end on a liberatory note in any final or concrete sense, but in dissonance, and implied decay of the principal sovereign power.

### **Spies and Proxy Wars**

*Sentimental Agents* emerges in a context of the mass production and consumption of spy novels in the Cold War period in Anglo-America, notable examples being Ian Fleming's Bond series (1953-1966) and John le Carré's George Smiley series (1960-77). *Sentimental Agents* deploys a familiar narrative of the home agent on a mission to recuperate a defecting spy, who finds himself similarly contaminated after spending time on the planet. Unlike le Carré and Smiley, Lessing uses space fiction to probe the biomedical and psychiatric engineering of feelings of loyalty, complicity and affection to the home planet. On Volyendesta, 'spies are the subject of every other article, broadcast, broadsheet, popular song' (SA 167): the risk of the spy, and the threat of unseen

or unperceived external forces rupturing the integrity of social constitution, is a constant anxiety.

While *The Sirian Experiments* depicts a series of Socratic encounters between Ambien II and Klorathy as pupil and master, *Sentimental Agents* takes this power dynamic into the realm of mind-altering therapies in psychiatric treatments during the 1950s and 1960s, attaching these to the governmental interest in keeping spies psychologically loyal to their respective national interests: sovereign mind control. These therapies were based on a notion of the patient as first, disordered or unbalanced measured against normative social function, and second, as curable. In other words, the contamination of mental illness might be cured at the level of the individual. Compounding this are the implications of Incent's name, which is both a verb: to provide someone or some group with an incentive, as well as a truncated spelling of 'innocent', with the verbal form of negation, 'no', taken out. Read in this way, Incent is an agent whose power of negation has been removed, suggesting a lack, an inability to give a negative response. Klorathy wants to 'cure' Incent of a certain psychological imbalance, the Rhetorical Disease that Incent has 'caught' from Krolgul, treat him out of it with various forms of therapy (immersion, dialogue), and to restore him to an appreciation of Canopean supremacy.

In modern medical terminology, a disease means dysfunction, a set of observable symptoms that may or may not be treatable; its older use, from Old French *desaise* (*des-* -*aise*), means 'lack of ease' or 'inconvenience'. Klorathy uses the term in the former sense. In his account, Incent has been contaminated by 'the stimulus of words' on Volyen, a planet which 'seethes with emotions of all kinds' (SA 13). The symptoms of this disease are Incent's vulnerability to Shammatian influence. For Canopus, Shammat represents the threat of Canopean ideals being contaminated, and the corruption and corrosion of their benevolent governing interventions. Catching the Rhetorical Disease therefore equates to being contaminated by Shammatian influence. In a report to Klorathy, Incent describes being struck by the Shammatian Krolgul's 'compassion', 'warmth of heart', 'sensitivity to others' sufferings', and states, with surprise and irony, 'This was the terrible Shammat! This wonderful being who wept as the

rebels were led to execution!’ (12) Incent is carried away by Krolgul’s displays of emotions, caught in a reciprocating bond of political awareness, and begins to doubt Canopean truths:

I spent the next few weeks with him. I was given a view of, first, Volyen, and then of the Volyen “Empire.” I put it in inverted commas as is our Canopean way – but does this not show arrogance on our part? (SA 12)

Incent is questioning here the Canopean comparison; while Volyen ‘hardly stands in comparison with our Rule, or that of the Sirian Empire, [...] from their point of view it is something, an achievement. I was quite ashamed to see Krolgul’s ironic but kind smile when I spoke of the Volyen Empire with what I am afraid I now see as something not far from contempt’ (SA 12). Out of the Canopean sphere of influence, interacting with Shammat, Incent’s ideas are changing; the words ‘arrogance’ and ‘contempt’ replace the Canopean vocabulary of benevolence and tolerance. Incent’s words articulate an alternative to Canopus, a shadowed, anarchic world, where no leadership is significant, outside the limits of Canopean imperialism.

While it is Incent’s contamination by Shammat which prompts Klorathy’s trip to Volyen, another reason is given alongside this humanitarian intervention. Volyen has become a planet of interest to Canopus with regard to imperial competition. Volyen has never been colonised by Canopus, because ‘it is in a very poor position for Harmonic Cosmic Development’; thus, Canopus ‘did not do more than maintain Basic Surveillance for thirty thousand Canopean years’ (SA 13). During this time, the planet has been a peaceful planet mainly occupied with agriculture and local trading. Yet, following ‘a cosmic disturbance cause by the violent “soul-searchings” of the neighbouring Sirian Empire, the population increased rapidly, material development accelerated, and a ruling caste came to dominate the entire planet, making slaves of nine-tenths of its population’ (SA 13). This gives rise to a phase of Empire-building, with neighbouring planets ‘invading and settling one another, as short-lived and unstable ‘Empires’, for

twenty-one C[anopean]-years' (SA 14). In Klorathy's account, Volyen has gone from a stable agrarian society to the central regional player in a long-wave history of imperial decline and fall. Now an object of interest to Sirius as a possible site of expansion, the planet is also of interest to Canopus. Lessing deploys the spy novel genre to conjure a history of proxy wars in peripheral territories during the Cold War era.

In her memoir on her trip to Afghanistan in September 1986, *The Wind Blows Away Our Words* (1987), Lessing writes that she has been associated with 'the Afghan struggle for some years, through Afghan Relief', which she describes as 'an unusual charity, in that no money at all is spent on administration or distribution. Every penny gets to refugees' (35). This description shows her awareness of the precarious and inconsistent loop dynamic between aid money, leaky governance and unreliable distribution of services and resources. Lessing refers to one of the stereotypes of foreign aid: it is customary to talk about money getting held up at various levels of administrative or distributive governance, and the money does not reach the people to whom it has been sent. This stereotype is another strategy of forgetting the historical deals made on 'virgin' lands with indigenous inhabitants – land in exchange for commodities, and the gradual extension of the global market through territorial acquisition and, later, commercial globalisation. The leakiness of global aid distribution as a result of local stockpiling does not signify a tendency towards corruption, but rather an attempt to 'forget' the continuation of territorial domination through satellite governance, prolonging the neo-imperial waiting game. Lessing's memoir documents continuous meetings with refugees, but also shows her concern with Russian expansion. The first words of the Author's Note read: 'Russia has been expanding southwards for centuries' (33). Then, "'The Great Game' – that is, who was to dominate Afghanistan – was played out through the Nineteenth century between two Empires: Great Britain and Russia' (33).

This long history of proxy wars is comparable to the one depicted in *The Sentimental Agents in the Volyen Empire*. Volyen is a long-overlooked sub-planet under observation by both Canopus and Sirius, which takes on a new importance to Canopus as soon as Sirius begins to make moves to conquer it. Klorathy's

mission on Volyendesta to 'save' Incent is banked in a much larger project: to influence events in the Volyen sphere in a way that will benefit Canopean interests and help to sustain their dominance over (inter)global affairs. Despite Lessing's non-partisan description of the situation in Afghanistan as the product of a competitive face-off between warring empires, the facilitation of her presence by an English-speaking international aid infrastructure points to the intervention of Western European and US forces through this network. Politically, she positions herself on the side of the national, anti-Soviet resistance force, the muhjahidin, writing with admiration of their stoic commitment to defend the borders of their land with a tone of naivety: 'For most of [the war] the muhjahidin have fought without aid from outside, though very recently more arms have been reaching them; never enough, however, and never as much as the western powers, particularly America, have claimed' (34). While wedging 'The Great Game' of Afghanistan between two empires, attempting ostensibly to see both sides, Lessing is nonetheless fixed in a liberal notion of global dominion that takes 'aid' as a power for good (although problematised through bad or uneven management).

Read alongside the *Canopus* series, which parodies this style of colonial reporting, Lessing's account of Afghanistan seems to be written within the costume of Klorathy. Lessing positions herself as sympathetic to the 'Afghan struggle', while also acting as an informant for her nation, perhaps unwittingly, through publishing her reports (in English). Lessing also forgets.

### **Shock Therapy: Rehabilitation, Madness and Politics**

As soon as Klorathy can diagnose a disorder, he regains control over the situation, and can determine the future of the patient. In this section, I look at Klorathy's intervention on Volyendesta as a self-declared rational agent on a humanitarian mission to rehabilitate Incent. Incent must prove himself mentally

capable before being permitted to continue his work on the planet, and Klorathy, in effect, sequesters him to a mental hospital. If Incent cannot function according to Canopean reason, then he will be taken out of action. More broadly, this can be related to the aporia of representative democracy identified by Jacques Derrida in *Rogues*, as I outlined in my discussion of *The Sirian Experiments*: ‘How many voices, how many votes, for an unconscious’ (84)? How can the hierarchised multiplicity of psychic life be reconciled with the numerical equivalence required for democratic participation in public affairs? In order for a citizen to take part in a system of representative democracy, they must prove themselves mentally capable in a number of ways. In order for the one person-one vote equivalence to stand, a citizen is expected to have the functions of reasoning to vote in the first place. Historically, the exclusion of residents of a nation from participating in this system on the basis of their status within social order – as woman, as slave – has been justified on the grounds that those excluded were not able to think and decide as rational agents. Thus, the ‘quality’ of the subject’s mental abilities – determined historically by divisions of gender and race – has been a deciding factor in whether or not that human subject can make the claim to be a political one.

*Sentimental Agents* can be situated not only within the spy novel genre, but also within challenges to psychiatric practices – such as shock therapy the prescription of psychotropic drugs, and lobotomies – in critical, psychoanalytic and political theory in the 1960s and 1970s. Mark Fisher describes the anti-psychiatry movement as follows:

In the 1960s and 1970s, radical theory and politics (Laing, Foucault, Deleuze and Guattari, etc.) coalesced around extreme mental conditions such as schizophrenia, arguing, for instance, that madness was not a natural, but a political, category. (19)

Lessing is one of a number of fiction writers of this period, such as Kurt Vonnegut, Ken Kesey and Andrew Burgess, who represent madness as a socio-political phenomenon rather than a natural one. Her writing of madness in *The*

*Four-Gated City* (1969) and *Briefing for a Descent into Hell* (1971) also shows the influence of R. D. Laing's ideas.<sup>11</sup> Marion Vlastos argues that Lessing and Laing share a social vision, which can be tied into a cultural moment of politicising madness: '[I]ndividuals become sick because the world is sick,' and that engaging with madness can 'reveal society to itself' (246). While Klorathy understands this sickness as having an a-historical, absolute value – Shammat as pure evil – in fact, it is not that Shammat's influence that has contaminated Incent, but rather his memory of Canopean history. Incent's 'madness' is a symptom of Canopean repression, not the influence of Shammat. As in *Briefing for a Descent Into Hell* (1971), space fiction gives more narrative flexibility for depicting experiences of madness as – quite literally – journeys into other worlds, and through this, to critique some of the normative values of the 'real' world. In this case, these values are those held by Klorathy, in his conviction that Incent only needs to be 'shocked' back into Canopean norms of behaviour, thought and memory.

Yet Klorathy's attempt to rehabilitate Incent is also a political mission, connected to a larger task: to prevent the colonisation of the planet by Sirius, which is undertaking an aggressive, end-of-empire campaign in a desperate attempt to return itself to its former glory. The role of Shammat is, for Klorathy, to cause another kind of disruption: whatever Canopus attempts to achieve, Shammat will attempt to destroy. From Klorathy's perspective, Krolgul's influence over Incent, and Incent's succumbing to the Rhetorical Disease, is akin to a challenge to Canopean power. By attempting to de-contaminate Incent through psychological rehabilitation, to 'cure' him of the disease transmitted by Krolgul, Canopean influence over the future of Volyen and its neighbouring planets – Maken and Slovin – can be ensured.

Klorathy works on the principle that Incent's 'disease' is treatable. Individual treatment – in the form of talking or hypnosis or enforced sequestering – marks the limit of Klorathy's intervention. He sends Incent to a

---

<sup>11</sup> Laing was a personal friend of Lessing and 'a guest a couple of times' at Lessing's London home in the early 1960s, where Jenny Diski recalls reading Lessing's copies of Laing's *The Divided Self* and *The Self and Others* (Diski, 'Doris and Me').



Canopean-run hospital for Rhetorical Diseases (the sonic echo of 'tropical diseases' looms) where Incent spends time in the ward for 'Basic Rhetoric':

This ward is at the front of the building, on balconies built over continual crashing, moaning, or murmuring waves. The winds whine and roar all day and all night. To augment this we have arranged background music of the most deliberate kind, largely originating from Shikasta. (SA 18)

The concept of this ward, the first phase of rehabilitation, is to bring to crisis the excesses of emotion induced by exposure to what seems like a late Romanticist aesthetic (the music played is filed in Canopean reports under 'Nineteenth Century Emoters and Complainers'). This immersion in the Romantic Sublime is intended as a kind of system shock, equivalent to electric shock therapy, but with music and sound rather than electricity used to confound the mind and draw the subject out of their emotional reveries.

Later, when various treatments in the hospital have failed, Klorathy takes Incent to what he describes as 'the wonderful, all-artificial, cool, stimulus-free white room' in an unnamed hotel, 'silent as in a cave deep under the earth', with 'a place of quiet light' as the ceiling (SA 89). We might think also of the whitewashed rooms behind the walls in *Memoirs of a Survivor*, sites of active forgetting. In this 'place of quiet light', a light show of geometrical shapes takes place, designed to clear the mind of unwanted thoughts, a meditational space of abstract shapes, promising a transcendental understanding of an original meaning:

At first you are allowed only glimpses of circles, triangles, squares, all a luminous white on flat white, and the shapes darken, turn grey and then duller grey on a white that begins to shine, though softly. These statements of order remain, so that the eye may travel, but resting, soothed, reassured; soon, however, the mind begins to protest against changelessness, longs for relief, and as you

understand that this is your thought – a hunger transmuted from a sharp need into the passionless stuff of the mind – the eye is in movement again because up there, at the very tip of the dim shaft, it is not polygons but polyhedrons that you are trying to encompass with your gaze. (SA 89)

In this rehabilitative space, geometry comes to stand in for ‘truth’, an origin before verbal language. The implication is that in geometry, there are things that can be known definitively, which can be reproduced exactly and which transport to a beginning, which counter the slippery and contingent status of mere linguistics. As Jacques Derrida argues in *Edmund Husserl’s Origin of Geometry: An Introduction*, ‘the mathematical object is [considered as] *ideal*’, its being is ‘thoroughly transparent’ and it is ‘absolutely objective, i.e. totally rid of empirical subjectivity’; ‘its being is, from the outset, to be an object for a pure consciousness’ (*Introduction* 27). In its idealisation, the mathematical object is considered to stand in for and obscure ‘true’ nature through imaginative abstraction. Husserl’s critique is to suggest that the origin of geometry – its material history, its structural invention – has been forgotten. It is absolute, rather than historical, existing independently of its history, a discovery, rather than an exploration, transcending regional difference. For Husserl, this substitution of ‘history’ with ‘origin’ represents a crisis of forgetting.

I suggest that it is a comparable crisis of forgetting that runs throughout *Sentimental Agents*, with history working as an intoxicating force that continually disrupts Klorathy’s attempts to draw Incent ‘back’ into the imaginative sphere of abstraction and universals, away from the corruption and contingency of language, to the dwelling place of an amnesiac sovereign. Klorathy’s use of geometry as a therapeutic device is symptomatic of this effort: shocking Incent out of the Rhetorical Disease is analogous to an attempt to take Incent out of history, and indeed to deny the historical development of Canopean power. The symptoms of the rhetorical disease that both Incent and Ormarin suffer from are regurgitated phrases taken from previous ideological wars and applied to new battles. Klorathy’s attempt to cure them of this tendency places

the language, rather than events, at the centre of historical record. It is not Incent, but Klorathy, who is stripping the words of possible meaning.

Klorathy's fetish for abstraction is an undeclared strategy of imperial forgetting. Comay argues that a blueprint of forgetting, an amnesty of memory, has become a means of ensuring social stability in political states since Greece, as a way of beginning again: 'Nothing short of enforced amnesia, an indelibly inscribed erasure, could break the traumatic hold of the past and suspend the deadlock of inter- and transgenerational violence' (240). Yet this amnesty of memory (she cites, among others, the example of forgetting the names of Vichy collaborators in France after World War II) brings with it its own stasis, 'stasis supervening on a previous stasis, [...] a sudden standstill that interrupts stagnation precisely by intensifying and repeating it' (240). This 'legally mandated forgetfulness' can be understood at the level of state intervention in individual psychoses, which Klorathy attempts to perform on Incent. Klorathy pre-supposes geometry as an original order before language – he remarks, '[N]o sooner had I decided that I could never be seduced from the fascination of the dance of the polyhedrons, than I knew that I could contemplate for ever a ceiling that had become flat and decorated luminously with the patternings and intricacies of the interlacing polyhedrons' (SA 90). The reference to eternity suggests his crystallized comprehension of this an ideal space beyond his own existence, while it is also, for Klorathy, a literal reality: being immortal, he can contemplate the ceiling for ever. Klorathy's immortality, only possible in a speculative realm, makes literal the idea of abstract, infinite sovereign power. Immortality, infinity, and some original order that transcends language are Klorathy's 'cure' for Incent, the reminder of a place without words. The 'dance of the polyhedrons' is a closed system that he can enter and move around 'at will'. It takes place above the realm of human communication, the manifestation of a transcendental operation that imperial gods such as Klorathy can participate in, going out of 'himself' into a realm of planes and other dimensions. Yet, following Comay, we can read this instead as an act of forgetting, suspending Incent's questions about Canopean sovereignty, obliterating his attempted resistance against his own empire.

Klorathy is trying to restore an original whole, not through a proto-Romantic *Sturm und Drang* aesthetic, but through mathematical absolutism and a resolutely Cartesian metaphysics. This logic allows him to forget Canopean history, which has gone through phases very similar to the one now undergone by Volyen and its surrounding planets. Rather than acknowledging responsibility, Klorathy takes on the role of a benevolent humanitarian, delivering neo-imperial aid to a struggling new nation. It can be compared to the UN's response to the so-called 'rise of Third World dictators' in post-colonial African and South America; most notably for discussion here, Robert Mugabe in Zimbabwe. Such response, usually based in a Euro-US PR campaign of psychological profiling akin to Hitler and Stalin (but never Churchill), is characterised by the kind of amnesia and 'curing' of Klorathy to Incent. The idea of disease is laced into this work of forgetting, at once the image of dark tropics, and the remnants of an unconscious that has repressed the memory of colonial genocide.

Comay argues that this forgetfulness is a kind of 'deep freeze', 'stasis supervening on a previous stasis – a kind of shock administered to an inert or emptily gyrating body politic' (4). This 'instantaneous and hyperbolic freezing' of a traumatic past 'interrupts stagnation precisely by intensifying and repeating it' (4). That is, enforced amnesia changes nothing, and rather ensures that the cycle of trauma is repeated in some capacity, because social stagnation necessitates violent actions in order for some kind of 'shock treatment' to register as transformation in the body politic. This is noticeable in the repeated failures of humanitarian intervention (both governmental and non-governmental) made also through Euro-US-based aid agencies and international peace organisations, the UN and UNESCO. These interventions are generally to do with protecting the inscribed borders of national healthcare, and therefore the sovereignty of individual nation-states. Containing the excesses of 'rogue states' in refugee camps or detention centres, world powers – acting through humanitarian channels – sustain a precarity of existence for vast numbers of people, often (as is the case with Sudan currently) upholding an official non-interference policy

with regard to violent regimes, while influencing economic and fiscal policy through bilateral trade agreements.

The 'cure' of benevolent intervention, such as Klorathy's mission to Volyen, supplements the work of forgetting an imperial past, de-historicising the uneven logic of a capitalist world-system and diagnosing Third World corruption and violence as pathology, as (in an analogous sense, genetic) inheritance, rather than the inheritance of European imperialism. In *The Least of All Possible Evils* (2011), Eyal Weizman discusses what he calls a 'humanitarian present' which facilitates a state violence, moderated and minimized through an 'economy of calculations and justified as the least possible means' (3). For Weizman, 'Humanitarianism, human rights and international law, when abused by state, supra-state and military action, have become the crucial means by which the economy of violence is calculated and managed' (4-5). Far from benefitting the populations it swoops in to save,

[S]patial organisations and physical instruments, technical standards, procedures and systems of monitoring – the complex humanitarian assemblage that Adi Ophir called 'moral technologies' – have become the means for exercising contemporary violence and for governing the displaced, the enemy and the unwanted. (4)

Weizman's concept of the 'humanitarian present' is forged out of collusion between two forces: the 'technologies of humanitarianism, human rights and humanitarian law with military and political powers' (4). The juncture at which humanitarian intervention functions most efficiently is not in the treatment of wounds – wounds of body, infrastructure, immunity – but in containing and thereby maintaining this vulnerability.

Out of this vulnerability, located at the peripheries of rogue states, comes an opportunity for deploying emergency powers through what Michael Agier calls 'a distant and delegated form of management, a government without citizens', creating and sustaining 'waiting rooms on the margins of the world'

(Weizman 56-7). Life itself is reduced to biological life, species survival confined to the suspension of political activity; following Hannah Arendt, this can be compared to the lives of slaves in Ancient Greece, excluded from property ownership and therefore from participation in public affairs (30-31). Weizman ends his book with a question: how to foster political agency in these camps among their residents, with reconstruction and improvement of housing and infrastructure in refugee camps carried out 'not instead of but rather in order to support political rights and the continuous struggle to achieve them' (147)? Following Weizman, Klorathy's intervention seeks to contain and negate the political possibility of Incent's contamination.

### **Multicultural Imperialism as Biopolitical 'Good'**

As I argued in Chapter One, the discourse of multiculturalism often, misleadingly, suggests a post-colonial levelling-out of the world-system, but in practice sustains imperial hierarchies of scientific and cultural racism. Benjamin's discussion of nineteenth century physiology coinciding with the censorship and ordering of everyday life – that is, as a strategy of control to produce bourgeois life as common sense, and to eradicate dissent – is useful for analysing the way in which Klorathy deploys multicultural discourse as a governing technique to maintain order, and effectively obliterate any deviant forms of difference. At the end of *Sentimental Agents*, a different political threat emerges, by chance. It is not Sirius that invades, but Maken, a subsidiary empire at a resource extraction stage of imperial expansion; in the analogy of North-South global relations, Maken can be thought of as analogous to a nation-state of the global South. Its invasion of Volyen is not a proxy battle for the main war between Sirius and Canopus, and therefore does not carry the history of their imperial competition. While road-building and travel networks facilitate Sirian invasion, the government of Maken does not have the resources to carry out this kind of infrastructural re-organisation. Klorathy explains to the freedom fighter Ormarin that there is an opportunity, then, not to prevent or even resist their

invasion through warfare, but to ‘limit their influence here, their power’ (SA 212). The Makens have little use for most of Volyen’s resources, looking only for ‘birds and insects to take back and try out on Maken’ for the sake of breeding more of their pipisaurs (their animal companions) (SA 213). Their interest is not competitive expansion, as with Sirius, Shammat and Canopus, but is rather an experimental mission for resource extraction. Klorathy’s advice is to let them in, rather than risk losses.

This is not a way of permitting contamination, but of limiting disruption, and thereby holding off the threat of social change. As I have argued in Chapter One, the idea of multiculturalism – demarcated cultures existing together in the same social space – is a way of preventing the contamination of sovereign knowledge. By differentiating ‘culture’, a racial typology remains unchanged. Moreover, this is a strategy of sovereign power. The presence of minority groups does not threaten sovereign power, but enables the difference to be categorised under and subsumed into Canopean surveillance. This incorporation is merely an extension of sovereign power. In this representative democracy of differentiated racial-cultural ‘types’, Canopus can claim everything, a form of absolutism that must only acknowledge the other as other in its mechanisms in order to make its claim to democracy. The abuse of power in this situation can always be justified, because difference has been incorporated, rather than excluded. Multiculturalism is a biopolitical good because it is both a strategy of preserving the bio-energy of citizens from war, and a way of tracking these citizens under a restricted set of civic freedoms.

Klorathy suggests to Ormarin that rather than use the Volyen alliance forged by Ormarin’s political campaigning – composed of united ‘slaves and citizens, Volyendestans and former Volyens, refugees and Sirian officials who have settled here’ – to ‘fight to the last drop of everybody’s blood’ (211) against the invaders, to instead use their temporary collectivity to consider,

[H]ow to *invite* some of [the Makens] to stay as your guests, how to give them what they want without depleting yourselves, how to change those that stay [...] so that they become as flexible and open-

minded as in fact you are, how to wait until they go, or, rather, until one day you realise you have not been visited for a long time by the Maken forces, and that those of them that are here are like you, that you have so absorbed them, that Volyendesta is in fact independent, though nominally a part of the Maken Empire. (SA 213-14)

This suggestion seems at first unfeasible. How to guarantee that the Makens will not swoop in and take over everything? Why should the Volyens yield some of their resources to another imperial power? What would ensure the adaptation of the Makens to the flexibility and open-mindedness that has been cultivated by the unifying of different social groups on Volyen?

There are two things to say about this moment in the text, the first about neo-imperial intervention and the second about the recommendation of non-violent confrontation between invader and invaded for the sake of cross-border adaptation. First, despite perceiving the strength of a multiplicity of social groups coming together under the threat of invasion, Klorathy continues to treat the population as an anthropological object and collective subject over which he can continue to assert Canopean policy direction. His role as agent in regard to Ormarin is that of international peacekeeper in dialogue with a rebel leader, attempting to maintain Canopean influence by not allowing the Volyens to annihilate themselves ‘to the last drop of everybody’s blood’ (SA 211). This leads to his directive to Ormarin for a non-violent resistance to invasion, the purpose of which is not to prevent the invasion itself, but to prevent depleting the general life-stock of the interstellar system in the form of the Volyen population, and rather promote adaptation and integration of the Makens to the planet. In order to make this recommendation, an opposing figure of invasion is set up, far more threatening: that of total subjugation by another imperial force, presenting integration, adaptation and small losses against either total annihilation or totalising control by the enemy planet. Klorathy’s directive is biopolitical interventionist logic, presented as the alternative to these more radical and destructive possibilities.



The more threatening option of total subjugation is made more palpable by the fact that this conversation takes place in a slave camp. Klorathy draws this contrast between small losses and total subjugation in a Sirian slave camp where ‘slaves provide labour for the [Sirian] plantations’, harvesting a berry used ‘as a stimulating beverage’ (SA 208). The slaves are an endogamous population, ‘have never bred with any but their own kind’ (SA 209), selectively bred for the purpose of berry-picking: ‘their immensely long arms are of use in picking the berries’ (SA 209). This is a strictly controlled environment of the kind Ambien II describes in *The Sirian Experiments*, resurrecting the memory of the Lombis and the Planet 8ers, the biological cost of imperial expansion. The description of these camps can be read as echoing two forms of imperialist expansion: the gulag system in Soviet Russia, and the plantation slave system in pre-reconstruction US South. In the second instance, the biopolitical element is more clear: the state of slavery was determined along the line of phenotypic characteristics under the name of ‘race’, and its perpetuation made necessary the reproductive labour of fertile black women. Mixing races would mean an epistemological devaluation of this bio-economy of labour, given that the enforced separation of groups on the basis of imperial ‘racial’ characteristics made this system possible. The slave camp resurrects a history of a global commonplace of slavery for the purposes of national interests as a necessary tool for expansion and development, a common denominator for expansionist political systems.

It is important to be suspicious however, of Klorathy’s implied promotion of liberal multiculturalism, in contrast with phenotypic uniformity, of ‘slaves and citizens, Volyendestans and former Volyens, refugees and Sirian officials who have settled [on Volyendesta]’ (SA 211). He takes variation as evidence of the ‘infinite inventiveness of our galaxy’ (SA 209), and the possessive ‘our’ is crucial here. At first reading it suggests a kind of sharing, but the iteration is steeped in the logic of ‘us’ against ‘them’, the multiplicity of ‘our’ galaxy in contrast to the uniformity of Sirian social organisation. Observing the phenotypic uniformity of the slave labourers, Klorathy compares the slaves to the phenotypic variation in Volyendesta:

I reflected that in the streets of this planet's cities you may watch its people passing for hours, and never see a face repeated or a bodily shape the same as another. So long has Volyendesta been invaded, settled, 'protected,' so long has it invaded other planets, so long and thoroughly have the genes been stirred and mingled and added to and inspired and excited by new material, that the natives have no general type or sort[.] (SA 209)

This reads as the raptures of a liberal multiculturalist who considers empire to have been more or less beneficial for the development of human history, briefly nodding to the history of violent imperialist acquisition while also forgetting the cost of 'invasion', settlement and protection. Klorathy's interest in the great variety of genetic mixtures as a result of imperial adventures ignores the human cost of miscegenation in the context of European colonialism. The division between small losses and total subjugation is, then, only a question of number, rather than suggesting any kind of radical alternative.

Klorathy articulates the benefit of what Spade and Willse call 'multicultural imperialism' in their article, 'Sex, Gender and War in an Age of Multicultural Imperialism' (2014). They identify a troubling complicity between the promotion of the US as the centre of the 'free world' along the lines of progress made towards equal rights for racialised minorities, women and LGBTQ people, thereby justifying continued military intervention and imperialist expansion abroad. In a discussion of Chelsea Manning's defection from the US army after releasing confidential military documents to Wikileaks in 2013, and her release of a statement coming out as a transgender woman the next day, Spade and Willse argue that the liberal defence of Manning along the lines of sexuality, rather than politics, 'expose[s] how the production of feminist and gay politics aligned with militarism serves the projects of US neo-imperial war and imperialism [and] how women's rights and LGBT rights fit right into the tool box of war-on-terror proponents' (7). That is, rather than Manning's political act of anti-war campaigning being at the centre of the liberal defence of her, her social identification as transsexual was deployed to excuse it. They describe a

‘multicultural imperialism’ which – in the name of ‘Western’ freedoms – reduces the complexity of experiencing the world to types of experience, and thus the rhetoric of liberated subjects can be deployed around gender and sexual politics to forge an ‘us’ against ‘them’. In the case of the construction of ‘the Middle East’ in post-9/11 Euro-US as a centre for terrorist training, in which women’s rights and LGBTQ rights are suppressed under a similarly monolithic Islamic, heteronormative patriarchy, the West is constructed as a site of liberated subjectivity. This ‘multicultural imperialism’ does not function outside the restrictions of sovereign typology, but puts a multiculturalism of ‘types’ in opposition to repressive uniformity, and uses this as a founding principle.

Relevant for the reading of Klorathy I propose in this chapter is Spade and Willse’s example of Hilary Clinton’s speech, ‘Remarks in Recognition of International Human Rights Day’, delivered at the UN Building in Geneva in May 2011. Citing the 1948 Universal Declaration of Human Rights – which proposes that ‘human rights are the birthright of all people’ and transcend the organisation of individual governments – Clinton stated that ‘gay rights are human rights’ (‘Remarks’). Spade and Willse argue that Clinton’s citation of this declaration ‘obscures the actual geopolitical context of the reconfiguration of global power in the aftermath of World War II, the weakening of traditional European empire, the consolidation of the US empire as a dominant world power, and the divvying up of spheres of military influence and control along what would become Cold War battle lines’ (8). Similarly to my reading of Klorathy’s sovereign amnesia, they argue that Clinton’s reference represents the evacuation of this history, significant because, at the time, she was the US Secretary of State and therefore the US’s premier diplomatic agent for international affairs.

By evacuating this history rather than evaluating the implementation and international ordering of human rights along the lines of nation-states, Clinton casts ‘the classic social myth of representative democracy – that people come first, and governments serve them’ (Spade and Willse, 8). The hope of multiculturalism – that many differentiated ‘types’ of people (gendered, racialised, and so on) can come together to form a democratic public sphere, in

which the interest of each of these 'different groups' are represented, is then an extension of the myth of representative democracy's efficacy in ensuring the equity and evenness of universal human rights. Spade and Willse suggest that Clinton's citation of the 1948 UN Human Rights Declaration to say that 'gay rights are human rights', 'bringing gayness from the particular to the universal' and 'enact[ing] a chain of equivalences drawing from the US context: women, African-Americans, and now gays', obscures the way in which human rights have been deployed historically 'as a technology *for* capital and empire' (8; italics mine). By making this claim, placing the struggles of black emancipation, women's suffrage and now LGBT rights into the past of US governance, Clinton can claim a 'progress narrative' for the US, 'affirm[ing] the role of the United States as arbiter of the universal,' 'declar[ing] equality achieved at home and operat[ing] as a global leader on human rights' (8). It also rebranded the Obama administration as pro-gay, and 'imperial, racist state violence as somehow progressive' (Spade and Willse 9).

Spade and Willse offer a useful way of reading Klorathy as representative of an imperial regime which takes its supremacy for granted, insofar as he positions himself as an (inter)global leader of a sovereign force that has learned from its (silenced) mistakes and has adapted itself along the lines of representative democracy. Yet this representation ends up figuring as a simple multiculturalism, with people reduced to particular subjective experiences of collective struggle. His comparison of (Sirian) uniformity with (Canopean) multiculturalism articulates something similar to Clinton's appropriation of universal human rights as a specifically North American ideal. This ideal then becomes part of the implicit justification for neo-imperial intervention in nation-states that have not yet incorporated these struggles into their governance, where 'minority groups' are not represented in democratic processes. Klorathy justifies Canopean intervention on the basis of its 'multicultural imperialism,' over and against an imperialism that seeks to cultivate a uniform citizen-subject as the primary source of labour power. He reduces the violence of imperialist expansion to the mixing of genes, articulating this history as a kind of inevitability while ignoring the losses incurred through invasion and settling.

When he advises Ormarin that approaching the Maken invaders as guests rather than enemies will prevent the loss of life, this should be read as a biopolitical strategy. He wants to prevent loss of life for biopolitical reasons, not for reasons of social justice or peace. This is life that the Canopeans have an interest in preserving because first, they already have influence over Volyendesta, and second, because they want to maintain this influence through successive reproduction. Klorathy gives this advice because the Makens are not a threat to Canopean imperialism. Through this non-violent strategy, the Makens can become part of Canopus's neo-liberal inclusion of 'minorities' living under multicultural imperialism – resources for an interplanetary commonwealth – and Canopus can maintain their grasp on (inter)global leadership.

*Sentimental Agents* does not have a satisfactory ending with regard to emancipatory politics. Ormarin takes Klorathy's advice, the Makens come to take some resources from Volyendesta, are surprised by the lack of direct resistance to their efforts, and end up leaving the planet fairly soon after, having left some Makens behind who soon enough adapt to the biological and social conditions of Volyendesta. The novel ends with Klorathy following Incent to Shammat, because Incent 'has had a relapse' (SA 220). The text gives Klorathy the final word, but it is marked with failure and the implication of repetition. From a narrative point of view, there has been no 'progress' in the sense of a successful freedom struggle. What Lessing is doing, rather, is staging the back-and-forth of the news-governance-intervention cycle of proxy wars during the Cold War, noting the declining influence and significance of the Soviet Union, as well as setting the stage for the continued domination of Western powers along the lines of Spade and Willse's notion of 'multicultural imperialism'.

## **Intoxicated Subjects**

In this section, I look at how Lessing crosses the metaphor of physical or bodily contamination with that of mental illness in *Sentimental Agents*. I address how the narrative negotiates the three questions raised by the text to this point –

sovereign amnesia, psychiatric ‘cures’, and the binary of protectionism and multicultural imperialism – through the trope of intoxication. The ‘contagion’ of psychological disorder marks a site of potential change. Barbara Vlastos argues that there is a turn in Lessing’s writing with regard to her fictional rendering of social change from *The Golden Notebook* (1962) onwards, after leaving the Communist Party in 1957. Vlastos suggests that this turn involves the move from a Marxian hope for structural reorganisation, represented by George Orwell, to the role of ‘inner life’: empathy over treatment, reciprocation over diagnosis. Vlastos writes, ‘In both Laing’s and Lessing’s views the principle of compartmentalisation, applied to groups of people, usually takes the form of separating Them from Us in obviously spurious moral terms’ (Vlastos 249). For Lessing, the psychiatric ‘cure’ reinforces the sovereign-subject power relation through the doctor-patient relation. At no point does Klorathy enter a dialogue with Incent (or Volyendesta’s populist leader Ormarin) that does not in some way reinscribe himself – and through him, Canopus – as the ‘correct’ way. His exchanges with them are emptied of the potential for adaptation, because of their one-sidedness. As Weizman argues, the question raised by the enforced absence of political agency within refugee camps by humanitarian technologies – bordering, surveillance, medication, precarious housing and inconsistent and unstable food supplies – is not to deny the precarity of the residents’ livelihoods, or the difficulty of their position (that is, not to simply place a plus instead of minus, granting agency as if by magic), but for these spaces to be imagined differently.

Psychological disorder is a crossing-place in Lessing’s work from the 1960s onwards, with regard to disequilibrium making possible radical change. Vlastos suggests that Lessing is interested in exploring ‘madness as potential salvation for the contemporary world’ (246). I would shift this formulation to acknowledge Lessing’s resistance to binaries, of which madness-reason would be one. Her characters do not slip into madness as if into the opposite realm of existence. Lessing represents the *effort* of madness, what might be called the *madness-work*, and the semiotic reconfigurations made possible by movement through different manifestations of reality. In *Sentimental Agents*, life is conceived as already

contaminated, and this figure of contamination rises to disrupt the stability and sterile sanctity of sovereign power, throwing off or breaking up the constant attempt at coherence and equilibrium. She unmoors contamination from the question of individuals and groups (where it would too easily be reduced to anthropological claims of 'hybridity' or multiculturalism), and renders it as a force of interruption, destabilisation, and possible adaptation.

In *Sentimental Agents*, Klorathy repeatedly fails to make a difference, or to cure Incent fully of the disease of Rhetoric. By making the use of Rhetoric into a disease, Lessing plays with the permeability and interdependency of mind and body 'contamination'. Contamination as a figure, involving the idea of the body being vulnerable to external influence, echoes Eugene Thacker's description of the epidemic as a figure of 'extrinsic life' that escapes the individual as unit; it is, etymologically, 'epi-' (around/upon) 'demos' (the people). Thacker writes,

An epidemic cannot be limited to the individual organism, for its very nature is to pass between organisms, and increasingly, to pass across species borders (and national borders). What is the unit of analysis for an epidemic? ('Biophilosophy' 124)

Thacker's question is not about the 'essence' of an epidemic, but rather the difficulty of taking this figure into consideration while defining 'life itself'. An epidemic takes place as a result of social relations: it is around and *of the people*. It echoes a historical moment; it is an aid to colonial territorial acquisition, as well as common experience – a gathering point – for previously disparate groups. The epidemic, escaping the individual, allows the formation of temporary collectivity that might explore and map out common interests *in response to* environmental demands, rather than attempting to form a new nucleus. The vulnerability implied by the epidemic does not make space for rigorous and totalising political transformation, but marks a site of psychobiological adaptation in response to an unforeseen contamination. This adaptation occurs not through strictly material configurations, but as a process; action comes *before* individuation – as in swarm intelligence, in the microbial life and bodily

interactions carrying the virus that creates an epidemic, 'there is something akin to a fully distributed control' (Thacker, 'Biophilosophy' 129).

The epidemic is characterised by what Thacker calls a 'radical horizontality of molecules' that does not depend on a genealogical transmission of information, but through which molecular life interrupts systems, forcing them into a defensive immune response, and attempting to break the stabilising dynamics of the organism into radical disequilibrium. This horizontality depends on external factors; it depends on the transmissibility of a disease through non-genetic channels:

An epidemic is molecular, but it is also social, technological, economic, political. Networks of infection, yes, but also networks of contagion, transportation, vaccination, quarantine, surveillance.  
(*'Biophilosophy'* 131)

An epidemic is not mobilised by a particular governing force in a given direction, but rather spreads unevenly, passing through different efforts of immunisation, dependent on social position or citizenship. National borders often mark the most comprehensive articulation of protection from this spread, but class borders within cities – the slum and the high-rise – also form boundaries of immunity, if public healthcare does not or cannot prevent outbreaks of disease in cramped quarters, exacerbated by malnutrition and poor sanitation. The epidemic is 'upon the people', but its distribution is also deeply uneven, with individual vulnerability to it dependent on a number of different environmental factors.

The epidemic is produced by socio-political relations, but it also produces new relations. In *Sentimental Agents*, Incent's contamination forces a confrontation between Canopus and its enemies, while Klorathy's attempts at rehabilitation fail repeatedly. This tension between the defecting spy and the loyal agent force Klorathy to speak 'for' Canopus, to articulate specifically what imperial interests he represents; he tells Incent, 'You are not an agent of Canopus in this (I admit) not very attractive little planet in order to develop a taste for



historical anomaly' (SA 148). This is Klorathy's principal mission: to neutralise Incent's increasing interest in what Klorathy calls 'historical anomaly'. As opposed to the transforming but ultimately unchanging shapes of the geometrical spectacle, 'historical anomaly' is not calculable or predictable, taking place in what Benjamin's notion of *Jetztzeit* – 'time filled with the presence of the now', bursting out of chronological progress to disrupt it (253). Canopus wants to cut Incent off from this, to restore him to a space of universal (Canopean) law, passed down as immutable structure from generation to generation. Incent's contamination makes it necessary for Klorathy to show his hand; it is this confrontation that makes their relation a site of possible change.

### **Pleasurable Melancholy: Interrupting Absolutes**

Contamination interrupts the diagnosis of disorder, making it difficult for the diagnostician to maintain the patient-doctor distance required for certain kinds of psychiatric rehabilitation. If the doctor is also affected, then treatment becomes more complicated. The characterisation of resistance in *Sentimental Agents* is moored in the possibility of being 'carried away'. For this, Mel Chen's theorisation of toxicity as both metaphor and material is useful. Chen argues that toxins can be thought of as 'conditions with effects, bringing their own affects and animacies to bear on lives and nonlives' (282). That is, the effects of toxins are *social* effects. Toxicity involves different kinds of sociality, 'straddl[ing] boundaries of "life" and "nonlife," as well as the literal bounds of bodies, in ways that introduce a certain complexity to the presumption of integrity of either lively or deathly subjects' (279). She gives the example of 'labouring or literally intoxicated subjects' – factory workers, agricultural workers surrounded by pesticides, residents in industrial and heavily-polluted areas of the city – who 'tak[e] into their bodies what their better-vested employers can avoid' (276). The toxins inhaled and consumed by these bodies, as they destroy bonds of biological life (nerve endings, organ function, brainpower), produce other kinds of bonds that 'link these groups, bonds that are recognized in the potent affinities of

labour and immigrant activism, have been laid there from without, to suture and reinforce multiple transnational systems of racialisation, labour hierarchy, and capital – and ultimately of affection or nonaffection’ (276).

Klorathy’s narrative is repeatedly interrupted by affective intrusions, by atmospheric and psychological disequilibrium of the status quo. The first paragraph of the text, a report from Klorathy to Johor, ends with a description of Planet Volyen as, like Shikasta, one ‘whose populations seem permanently affected by self-destructive dementia’ (SA 11). This anxiety around being ‘affected’ continually comes out of Klorathy’s speech. He uses words to connote an original meaning that has been lost, unable to think outside the binary of contamination and invasion. His language always refers to a lost unity, a coherence of self and world and a pure form of existence that might be restored. For Klorathy, the state of ‘being affected’ equates to an invasion of one form of existence by another, a transgressed boundary. He understands adaptation as the transmission of typological characteristics as a result of an invasion or threat. This understanding of ‘self and world’ can be thought of as a political and economic one, based on the management of discrete social environments. Biological adaptation resembles an understanding of political or economic change as incremental and gradual over time. At the base of this conception is the static (statistical) ‘type’ as a unit of evolutionary change, apparent before the law as a fixed condition.

We see this in Klorathy’s encounters with Ormarin and Incent; a breaking point occurs when Klorathy himself admits to being affected by the ‘plu-super-emotionality of recent events’ on Volyen, ending a report to Johor by saying that he is taking an opportunity ‘to “dry out”’ (205), again, the implication of an original or ideal state of being, an equilibrium that needs to be restored. When speaking about the oncoming invasion with Ormarin, Klorathy tries to persuade Ormarin to question the relevance of his use of fragments of quasi-Churchillian, protectionist and militant verbiage: ‘Rather than submit to the tyrannies of alien invaders I will pick up stones from the hillside if need be, and sticks from the forest, and fight until death overcomes me!’ (SA 34), a proposal of clannish warfare and a declaration of heroic martyrdom as a strategy of defence. Klorathy’s counter argument is to dispute the factual basis of Ormarin’s valiant

vision, noting the disparity between ‘the fine words’ about sticks and stones, in the face of reality of Volyen’s possession of ‘efficient modern weapons’ (SA 34). The moment is darkly comic, evoking a history of nationalist resistance to foreign invasion in England – ‘we will fight them in the streets’ – employing the gendered trope of male patriots as defenders of biological inheritance, economic resources and territory reminiscent of Ben Ata in *Marriages*. Directly addressing Johor, Klorathy writes, ‘I am afraid I must report that this was a bad attack’, and says that he has had Ormarin ‘confined to the hospital for a few days’ (34). Not only does Klorathy take it upon himself to form a diagnosis out of Ormarin’s words, but he also prescribes and administers the treatment he deems appropriate. The power relation of this exchange means that it is not an inter-responsive conversation, but a directed dialogue between patient and doctor in which Klorathy can only make one of two decisions: to treat or not to treat. This would be opposed to an exchange where both parties are able to listen.

Klorathy’s treatment refuses to let in Ormarin’s words, to consider the significance of their emergence in this particular context, and to reduce his statements to catchphrases of history. His decision is not formed by the general climate of fear on Volyen, but by an effort to eliminate the possibility of violent retaliation as it manifests through Ormarin’s verbal declaration of intention. There is no possible outcome to this exchange other than one of the two options provided by Klorathy’s medical role. Despite his acknowledgement in the first paragraph of his first report that ‘the population’ at large on Volyen is ‘afflicted by self-destructive dementia’ (SA 11), this for him is a *typological* phenomenon – that is, *a* disorder affecting *a* population in the manner of an invasion – rather than *atmospheric pressures* forming particular characteristics of social relations, and a cultural inheritance of a kind of defense aesthetic, based on nation-state borders historically demarcated by Canopean expansion (which, as shown, is a history that Klorathy repeatedly forgets). He thinks through the invasion of a pure realm, rather than understanding this realm as constituted by and constituting its milieu.

While trying to shock his subjects out of the Rhetorical Disease, Klorathy repeatedly uses the rhetorical of external attack when describing what he

understands as mental disorder. The euphemisms and colloquialisms he uses to describe mental states reveal his assumption of an environment-mind binary. This comes through during a later conversation with Ormarin, when Klorathy finds him sitting at the top of the hospital 'gazing out over the desert weeping, and in a severe attack of What Is the Point-ism, or the Futility of All Effort' (SA 68). The colloquial diagnosis creates an ironic distance that acts as a buffer to reciprocal dialogue, devoid of empathy. It prevents Klorathy from asking questions about cause by neutralising the implications of Ormarin's devastation: for Klorathy, his behaviour is reducible to the manifestation of a particular ailment, and he dismisses any consideration of its cause. He tells Ormarin,

'Come, take hold of yourself, man!' I exhorted. 'Pull yourself together! You know quite well the Sirians, or somebody, will attack soon, and here you are in such a feeble condition.' (SA 68)

Striking here is the implied sense of a fractured, male self that requires gathering up, the responsibility Klorathy places on Ormarin to 'take hold' and 'pull together' 'his' 'self', and the dichotomy of feebleness and strength that Klorathy sets up in relation to the possibility of a foreign attack. Klorathy's words gesture to a military ethos of stoicism, explicitly male – 'man!' Klorathy here plays lieutenant to Ormarin's sergeant, deploying a tough-love morale boost, trying to shock Ormarin out of his depression by reminding him of his strategic importance while the planet prepares for an attack, correlating 'taking hold of oneself with strong (not 'feeble') behaviour, and tying these to a reference to Ormarin's gender; falling apart is not the luxury of rational men responsible for protecting the (female) territory from plunder and destruction. Klorathy is able to acknowledge a form of internal disorder, but for him this is a deviation from the status quo of a 'man' who takes hold of himself, pulled together, into a cohesive unit capable of acting on behalf of protecting sovereign borders.<sup>12</sup>

---

<sup>12</sup> A number of British WWII propaganda phrases stressed psychological equilibrium as a strategy of defence: 'Keep Calm and Carry On', 'Who's Absent? Is it you?', 'Tighten Your Grip!', 'They've got the guts, back 'em with *more metal*', and so on.

The phrase 'feeble condition' can be read as a eugenic category; 'feeble-mindedness' was considered by early eugenicists to be a genetic disorder. While Klorathy does not describe it as such, his use of 'feeble' is still rooted in the sense that it is a deviant state from normative mental functioning. As I discussed in Chapter One, the promotion of so-called 'feeble-mindedness' as a genetic trait that could be bred out of a population through negative eugenics (in this case, voluntary sterilization) split the Eugenics movement in Britain, with figures such as Julian Huxley and Lancelot Hogben in favour, and George Bernard Shaw and J. B. S. Haldane against it. Nonetheless, the backlash against taking such extreme measures to breed out 'the feeble-minded' was founded not so much in questioning the genetic basis of this 'condition', but in the implications for individual free will. How would the unfit be judged? asked George Bernard Shaw. Klorathy's invocation of a 'feeble condition' that might be overcome by 'taking hold of oneself' and 'pulling oneself together' can also be displaced into a wider eugenic concern about taking hold of the body politic, and eliminating 'feebleness' for the sake of protecting the general healthcare of a population. That is, to have citizens capable of maintaining and defending national borders. There is no space in this public sphere of action for internal rupture, but rather only cohesion and coherence to general (Canopean) demarcation of sovereign territory.

By writing Klorathy's attempted persuasion through what he understands as common sense, Lessing highlights the construction of mental stability through language, from the imperial centre to the periphery. This does not only take the expression of reason opposed to madness (although this is one example), but rather plurality opposed to holism. Klorathy perceives Ormarin's words as fragments signifying a deviation or interruption of a prior cohesion. Ormarin justifies his depression: a sense of repetition and futility, realising the seemingly endless rhythms and logic of imperial expansion, and knowing that resistance will mark 'another example for the history books of a failed enterprise, a uselessness, something accomplished in blood and suffering which would have been better never attempted' (SA 68). Klorathy does not engage with Ormarin, but takes these declarations as evident of 'a classic case of this condition'

(namely, Undulant Rhetoric), ‘verbal formulations that are the most easily recognized symptoms’ of it (SA 68). He even records the interview for medical research, ‘for the use of doctors’ (SA 68). Klorathy’s position here is that of the medical observer, who can only read at the level of generality. He cannot risk the power relation between doctor and patient, or risk the possibility of treatment.

Nonetheless, Klorathy’s impermeability to this condition is not guaranteed. He recalls to Johor, having observed Ormarin, a time when ‘I myself suffered a prolonged and intense attack of this condition’, which we learn that Johor was responsible for treating him out of, and which caused ‘a lot of trouble’ (SA 69). We are reminded that between Johor and Klorathy there is a similar power relation of doctor and patient as the one that Klorathy keeps attempting to impose on his encounters with and treatment of Ormarin and Incent. This power relation seems to be a way of shoring himself against the possibility of contamination; it is not a situation that Klorathy wants to repeat, given his mission on the planet and his responsibility to Johor. At this point, the edges of the ideological structure to which Klorathy is also bound, out of which his language comes, begin to stand out. He identifies himself as ‘I myself’, echoing the repetition of double identification that comes out in his words to Ormarin; there is a sense that this condition is characterised by a split, which prompts a double articulation of selfhood. When Klorathy tells Ormarin, ‘pull yourself together’, the grammar of the sentence identifies the subject twice. The imperative, ‘pull [x] together’, is directed towards a ‘you’, and the noun, ‘yourself’, refers to both the object and the subject of the sentence. The grammar identifies a subject split by an implied distance between imperative and noun. ‘Ormarin, pull “Ormarin” together.’ Following this rule, Klorathy’s use of ‘I myself’ is similarly split; it is not an emphatic statement or even a confirming or confessional one, because Johor – the recipient of the report – already knows the tale.

Klorathy rather is speaking *to himself* at this moment, or more specifically, to a memory of ‘a proud, locked-in melancholy that accompanies the contemplation of what must appear to the infant-mind as futility, which is really quite pleasurable’ (69). This is a key moment of the text: Klorathy remembers

deriving *pleasure* from this 'locked-in melancholy'. There is no ambiguity in the admission of this pleasure; it exists by and for itself, not to progress the narrative, but to actually excuse Ormarin to Johor, on the grounds that Klorathy understands – even if he cannot admit it to Ormarin – the pleasure in 'suffer[ing] a prolonged and intense attack of this condition' (69), or the pleasure of suffering the weight of history. This means that when Klorathy admits to being affected by the atmosphere on Volyen, it is also a tacit signal of the return of this pleasure.

To invoke Benjamin's description of the *flâneur*, the pleasure derived from 'locked-in melancholy' also stands for a connection between atmosphere and individual, one based on the absorption of a collective state of being affected by a series of significant (sign-changing) events, or the psychological ruptures in a presumed equilibrium or stasis produced by social change. To respond to a realization of repeated traumatic events with a 'locked-in melancholy' is not just a symptom of self-loathing for one's individual impotence and the inefficacy of resistance (although Klorathy implies this). It is also a translation of collective experiences into unconscious semiotic associations. This translation charges events of the present with the semiotic configurations of past events. The meaning of a collective experience as understood by an individual is felt through the affective traces of prior events. This 'locked-in melancholy' equates to a subject living out of chronological time. There is a pleasure here in the disturbance of this linearity. Is this an abdication of responsibility? This melancholy does not reduce history to predisposed events, but rather transposes the trauma of past horrors onto the present, connecting the individual with the weight of destructive forces as experienced by other groups. This is a form of experience that enables past events to interrupt the present, not as static blocks of time, but as apparitions that form and are formed by – cathected – by the affective associations of the individual.

When, towards the end of the text, Klorathy writes to Johor that he has voluntarily checked himself into the Hospital for Rhetorical Diseases to 'dry out', it is also an admission of being affected:

Since Ormarin is away, I am taking the opportunity to ‘dry out.’ It is no good pretending that I have been unaffected by the plu-super-emotionality of recent events. Incent too feels in need of a respite. We shall become voluntary patients in Basic Rhetoric, Withdrawal-of-All-Stimuli Department. The tall, dim, silent, isolated room in the hotel on Volyen is inspired by it. (SA 205)

This is both a cry of desperation and an admission (‘no good pretending’) of having succumbed to the pleasure of yielding to pleasure itself (‘plu-super-emotionality’), akin to the quiet tone of an Anglican missionary succumbing to the pagan influence of the tribes he has come to civilise. Klorathy is trying to diagnose himself into self-correction. Again, the use of a common colloquial phrase, ‘dry out’, draws an analogy between Klorathy’s being affected by ‘plu-super-emotionality of recent events’ and alcohol addiction; the implication is that he is intoxicated with the atmosphere on Volyendesta, and that he needs to remove himself to an environment free from intoxicating stimulants.

Yet Klorathy’s succumbing to the atmosphere on the planet creates a temporary connection between Incent and himself, not based on their shared Canopean-ness, but on their shared state of being affected. The doctor-patient relation is temporarily suspended, and the ‘he’ / ‘I’ dichotomy becomes ‘we’, a declaration of collective action and a common goal. This is not an obviously political statement in the sense of any simultaneous defection from Canopus, but it does signify the vulnerability of Canopean processes of diplomacy and intervention, and their susceptibility to environmental influence. Although Klorathy’s report suggests that he is trying to resist this, nonetheless this resistance is retrospective; being affected seems now to have been unavoidable. ‘No good pretending’ signifies Klorathy being affected to the level of conscious action, shown by the identification and naming of his own lack of immunity to the planet’s atmosphere (the possibility of losing hold of ‘him’-‘self’), and his decision to check himself into *his own* rehabilitative facility. Ironic here is the certainty of the master-teacher in the transcendence of his lessons over individual weaknesses; the reference to the ‘tall, dim, silent, isolated room’



restores the idea of a (Canopean) truth exceeding human frailty, and the a-temporality of originary structures of the universe/universal. At this moment, Incent and he are drawn together by their respective intoxication, but the promise of long-term re-signification of this primordial truth is held off by Klorathy's immediate self-correction, and the articulated restoration of Canopean universality.

### **Alliances of Intoxication**

The toxicity of Shammatian influence interrupts the supremacy of Canopean sovereignty, creating temporary alliances that undermine the Canopean project. This is comparable to what I called the biosocial ambivalence *Ambien II* encounters in Koshi in *The Sirian Experiments*. Were Klorathy to take pleasure in being affected, he might come to a moment that Chen articulates in her essay on toxic animacies. Rather than dismissing, sterilising or abdicating acknowledgement of toxic effects on social relations, Chen suggests that 'thinking, and feeling, with toxicity invites a recounting of the affectivity and relationality – indeed the bonds – of queerness as it is presently theorised' (265). Klorathy and Incent's temporary alliance can be read here as a queer bond, taking 'queerness' not just as a-heteronormative social relations and thus suspensions of the evolutionary-biopolitical imperative to produce offspring via male-female intercourse, but more broadly as a bond which disrupts the regular(ised) functioning of the public sphere. Their bond is based on the premise of their mutual submission to being affected, a submission which necessitates their mutual temporary withdrawal from the realm of public affairs, and thus their self-imposed temporary leave from Canopean service. They are no longer able to work as Canopean functionaries.

Chen discusses toxicity as a condition, rather than simply a property of an individual or group (272). The affection of and between Klorathy and Incent is what Chen calls a 'queer love' propelled by toxicity, a potential social relation that has been made possible – released – by their shared experience of

intoxication (273). This experience moves between them, neither subject nor object, but a condition of proximity, of breathing the same air, of exhibiting common symptoms. Chen argues that there is a sociality present in the 'antisocial' effects of toxins, which she describes as a 'reflection on extant socialities among us, the queer-inanimate social lives that exist beyond the fetish, beyond the animate, beyond the pure clash of human body sex' (282). She understands this as deterritorialisation, threatening interiority or the supposed sanctity of a domestic bodily economy (of nation, population, family, individual) (267), connected to the threat of loss; toxicity threatens the regulation or stable management of the body, and by that measure, intoxicated subjects are allied – however temporarily – in the inability to perform self-regulation. This condition of toxicity – irreducible to group or individual – makes possible a 'potentially queer exchange' that 'effectively risks the implantation of injury' (Chen 275). These effects might be pleurably harmful, even deathly; they might risk damage to the reproductive imperative, or they might circumvent it entirely.

Klorathy and Incent's alliance comes from their shared experience of a condition *already affecting* most of the planet; as Klorathy says in the first paragraph of the text, the planet is one 'permanently afflicted by self-destructive dementia' (SA 11), and it is this 'affliction' to which he has admitted, temporarily, to succumbing. Their shared intoxication marks an alliance – undeclared – with those 'on the underside of industrial "development"' most likely to be affected by the mechanisms of a society based on the maintenance of industrial capital supporting a colonial (inter)world system, as Volyen is. The queer bond of their intoxication extends out of a reciprocal exchange to a collective mode of being, of which they are briefly part. It is an experience of abjection, which brings with it the pleasure of affecting and realizing oneself as part of a general atmosphere of melancholy. Klorathy's surface fears concern his potential inability to escape this condition; despite this, he knows at some level that 'being afflicted' is simply a matter of time: 'no use pretending', a phrase signifying resignation to the inevitable.

The significance of this moment is further compounded by what immediately follows Klorathy's admission of needing to 'dry out': a letter from

Ormarin to Klorathy, the only time in the text that a non-Canopean is granted direct speech, as opposed to being included in reported speech composed by a Canopean agent. Ormarin is writing about the possible invasion of Volyen by (Maken) soldiers arriving with wings (on pipisaur), a species he does not know, and asking Klorathy for advice on how to defend themselves against them. By the time Klorathy comes to respond to Johor about this letter, an unspecified amount of time after his voluntary rehabilitation, it is to make another admission: 'I have been careless, have not taken the trouble to reflect on how the PE 70 (Maken) armies must be experienced here' (SA 206). This again is a crucial moment; Klorathy is admitting a lack of shared perspective, not in the sense of united vision, but by forgetting the privilege of his knowledge and categorical system. The words 'reflect on' and 'experienced' stand out; these are not empirical words, but vague terms relating to contingent social relations and the fragility of social equilibrium: a sense of an ethic of care around perception and reception, rather than simply a paternalistic set of directions for possible (re)action. Klorathy's intervention so far has been, in his own words, 'careless': without care for the citizens of the planet, but only for the perpetuation of Canopean interest. His intoxication on the planet has disturbed his supposed immunity; his new status is not as rogue agent, as this would place too much emphasis on Klorathy's individual psychology. More broadly, this shift in Klorathy is part of a general intoxicated labour on Volyen, collective and repeated experiences of threat, danger, destruction and displacement. He is forced to remember why he is here, and to address the troubling responsibilities of his position.

In this chapter I have focused on the moments of Klorathy's diagnostic interventions, and of interruptions to his sense of himself as a cohesive, 'pulled together' subject, arguing that his intoxication on Volyen is the implicit recognition of a forgotten legacy of Canopean colonial violence. Toxic bonds forge queer bonds, undermining the heteronormative imperative of Canopean biopolitical governance. This is not a direct process, and Klorathy is not the primary focus of the text. Rather, the repeated breaks in the momentum of his reports gradually pull away at their credibility, showing Klorathy experiencing

the effects of Canopean imperial violence, drawing out the contingency of recording history, and the threat of it.

## CONCLUSION

There are four thematic strands to this thesis which I will briefly reiterate, before considering possible routes to developing the triangular disciplinary framework developed throughout the thesis (critical theory, materialist history, and science and literature) into further research on post-genomic biology in literary and cultural studies. The first two themes identify the biopolitical problem represented in the novels, and the second two relate to their speculations on modes of resistance to this problem: what I have called 'biosociality'. First, I situated the novels in a historical context of debates around the body as a biopolitical object, subject to various kinds of labour and energy extraction determined by socially-constituted identifications of gender, race, and sexuality; second, I identified a critique of post-colonial multiculturalism as continuing a system of racialised typology; third, I explored the idea of non-reproductive social relations, waste material and contamination as interruptions to the biopolitical interventions of a dominant world-system, tying this to manifestations of epigenetic change; and fourth, I put forward 'epigenetic poiesis' as a critical vehicle for considering the representation of biosocial complexity and adaptation in literary and cultural texts, as well as for moving between biopolitical and biosocial modes of living. Throughout, I maintained a conceptual distinction between a reductionist framework and one of emergence and complexity. This has enabled me to distinguish between epigenetic experimentation as an alternative essentialism, and epigenetic thinking as an epistemological interruption to the presumed immutability of coded or expressed DNA as a fixed blueprint for life itself.

A central question that I have explored alongside these four themes is how the novels represent inheritance as an activity of continual interpretation. How does memory function differently according to a character or group's position in the world-system? How are anomalies, errors, losses, and waste material incorporated into or silenced from the everyday functioning of the body,

population or society? How do seemingly immutable inheritances (DNA code, socio-political organisation) become altered by moments of crisis? Does adaptation mean that new elements come into the system, or is it based on a continuous process of interpretation in response to changed environments, which – in both a genetic and cultural sense – can extend past the death of the individual (whether this is social or physical death)? How does a cultural inheritance inflict violence on bodies whose bio-energy is extracted through social conventions, enabling the smooth functioning of governance, and how does this violence affect biological inheritance? How can states of ambivalence, intoxication and contamination interrupt, negotiate with, or resist an imperial legacy, and the eradication of memory as a technique of maintaining sovereign supremacy? These are questions I have addressed in my readings of the novels.

In Chapter One, I laid out a history of eugenics alongside imperial racial typology in readings of *Memoirs of a Survivor* and *Shikasta*. I argued that reading these novels together makes it possible to plot a historical transition from a colonial project of racial purity based on disciplinary techniques of enclosing ‘race’ as genetic, to a post-colonial multiculturalism in the core that aids the institution of neo-imperial white supremacy, and that this goes across the political spectrum. This set up the political stakes of the thesis, in the sense that biopolitical violence and extraction cannot be isolated to one system or social vision, but that instrumentalising the body as a tool for general improvement (whatever ideology, whatever the end-goal) ultimately refers not to a projected future, but to an idealised origin. Just as J. B. S. Haldane envisioned a society of little Haldanes, so too do the Canopeans and Sirians wish to mould the inhabitants of their territories in their own image.

In Chapter Two, I read *The Sirian Experiments* as a critique of Soviet biological experiments conducted in the name of social progress and resource extraction. I argued that Lessing extends Trofim Lysenko’s vernalisation technique for conditioning plants’ inheritance to experiments on ‘animal’ subjects, focusing on the Lombi experiment. I introduced ‘epigenetic poiesis’ as a term for the representation of emergent forms of biological inheritance in literary and cultural texts, arguing that this can be used to describe the Lombis’

resistant bodily ambivalence to the Sirians' attempted instrumentalisation of them. I moved away from the Soviet example to draw a connection between Ambien II's description of poverty and survival among the trading community of Koshi, and contemporary scholarship on living ambivalently in contemporary world cities. Through this example, I showed how chance encounters and unforeseen events do not just disrupt but also define modes of reproduction and survival through the biosocial ambivalence of migrant residents in Koshi, pulling away from the determinism of Sirian (and Canopean) biopolitical governance.

In Chapter Three, I developed the theme of ambivalence as an interruption to direct biopolitical imperatives in my reading of *The Marriages Between Zones Three, Four and Five*, arguing that a queer critique of Foucault's writing on biopolitics and Marx's theory of labour makes visible the specific violence of reproductive labour under capitalism. Following Al Ith's estranged movement between the zones, I argue that Al Ith's queer arc destabilises the founding premise of reprosexuality across both zones. Rather than reading Zone Three as a progressive feminist utopia, I suggest instead that it resembles a Spencerian utopia reliant on endogamous reproduction, neo-Fascist in its border controls. Lessing subverts the ruse of female leadership, showing how this is always subject to implicitly patriarchal imperial governance. A queer reading of the text makes perceptible the way in which, in Gayatri Chakravorty Spivak's words, 'the female body is seen as permeable [in] perhaps the most basic gesture of violence' (26), and, to follow Silvia Federici, how 'new reproductive technologies [...] reduce women to wombs' (*Caliban* 17), making the conventions of heteronormativity strange and revealing their violence. This happens through the reconfiguration of social conventions, or signs, which produce moments of runaway or disequilibrium, from which Al Ith stops returning. Lessing uses the speculative possibility of sf to throw Al Ith out of the societies of the novel, into an unknown realm. I developed the concept of epigenetic poiesis as a biosemiotic event, in which biosocial relations are rearranged through the requirement of interpretation, through what Szasz calls protolanguage.

In Chapter Four, I read *The Making of the Representative for Planet 8* as a fable of peasant survival, and a narrative of peripheral speculation on the

response of a genetically-engineered population to extreme climate change. I suggested that the Planet 8ers' adaptation to their changed environment encompasses processes of biological, perceptual and social change, placing epigenetic poiesis alongside Eugene Thacker's notion of 'extrinsic' or 'peripheral life': 'life that is perpetually going outside itself' ('Biophilosophy' 134). Reading the ice age as an analogy for the effects of a global economic crisis on peripheral nations, I connected this 'vital politics' of extrinsic life to the so-called African Crisis during the 1970s, after the abandonment of development initiatives in decolonial African nations following the Nixon Shock. In a speculative key, *Planet 8* imagines possible responses to such shocks, translating them as what I identified as epigenetic changes.

In Chapter Five, I shifted the axis between biology, history and metaphor to consider the function of interruptions in *The Sentimental Agents of the Volyen Empire*. By setting up a conflict between imperial intervention and chance interruption, *Sentimental Agents* explores the effects of modernity through its characters' intoxication with repressed imperial histories of violence. Preventing the spread of contamination involves the capture and quarantine of intoxicated subjects, which I read alongside Lessing's interest in the anti-psychiatry movement, and the representation of madness as a condition of modernity in her novels from this period. *Sentimental Agents* continues the critique of multiculturalism begun in *Shikasta*, by showing how what Dean Spade and Kevin Willse call 'multicultural imperialism' works to justify neo-imperial surveillance and control on the grounds of humanitarian intervention. The final novel shows Canopean power slip away, not through any radical overturning, but through the incremental manifestation of imperial decay. In this sense, *Sentimental Agents* ends where I began my analysis: in the rooms of wasted empire on the other side of the wall in *Memoirs*.

By the time Lessing writes *Canopus in Argos*, the Soviet Union has long ceased functioning for her as the manifestation of a desirable political alternative to the West. I have argued that the competitive relationship between Canopus and Sirius, with Sirius repeatedly positioned as a developmentally lacking, echoes Cold War competition between the Euro-US and the USSR throughout



the course of the twentieth century. Given that the texts appear in the final decade of the Soviet regime, I read the dissolution of Sirian oligarchy in *The Sirian Experiments*, and their unfulfilled, last-ditch proposal to invade Volyendesta in *Sentimental Agents*, trying to initiate a proxy war with Canopus, as an analogy for the breakdown of the Soviet Union. However, the real object of interest for her is Canopus, which I have argued is a fictional rendering of post-colonial Western imperialism in the guise of liberal multiculturalism, which adheres to nineteenth century racial typology.

I have argued that tackling this history in speculative fiction, rather than realism, allows Lessing to extend the scale of spatio-temporal global politics into a long history, not reducible to hundreds but to millions of years, as well as to represent the magnitude of the cost of life that the machinations and manipulations of Canopean and Sirian imperialism involve. This is also a way of contrasting socio-political, generational or genealogical time with geological and evolutionary time. It enables an exploration of the possibility of new and adapted forms coming into these speculative worlds, and to suspend the category of human experience in favour of a complex and flexible rendering of interactions. Other novels, such as *Briefing for a Descent into Hell* (1971), *The Fifth Child* (1988) and *Ben, in the World* (2000), also explore themes of pre-historical forms emerging in the present, psychological 'space' and the question of social determinations of normal physiological and psychological criteria, but I have focused on *Memoirs* and *Canopus in Argos* because they mark Lessing's move into parallel worlds – dystopian, futuristic, utopian, extraterrestrial – as a way of understanding and reimagining some of the dynamics of our own.

By constructing the series as a collection of archives, Lessing plays with the 'realism' of the historical text. The reports of Johor, Klorathy and Ambien II (and, peripherally, Incent) are supposed to function as a 'fact' for the implied Canopean reader – specifically, 'first-year students of Canopean rule' (12). The contingency of historical record is staged here, represented as immutable documentation, while being repeatedly undermined and contested by the events of the narrative outside the control of the colonial agents. I have read this speculative representation of materialist history as analogous to debates in

genetics contemporary to the novels about the supposed immutability of DNA as a blueprint for the organism, itself a kind of archive, and the way in which epigenetics and post-genomic research offer a view of the genome as much more responsive and flexible than the Central Dogma allows. Weaving historical analogy and biological metaphor, Lessing explores attempts to catch and capture the archive of 'life itself' by governing powers – through experiments and eugenic practices – and their repeated frustration. In her space fiction, Lessing seems more concerned with how – in an uncertain world, far more unpredictable than humans might like – the vast complexity of life itself might offer potential responses far more intricate and obscure than current thought might allow.

Throughout Lessing's space fiction, the metaphysical question of origin is decentred into the field of interpretative activity. The Canopeans have based their cosmic ontology on a source, from which the rest should follow, but the fact that – in practice – it does not, and that life itself cannot be reduced to an origin from which everything else is built, is reiterated repeatedly by the ongoing activity of interpretation. Despite their attempts to institute utopia, both socially and biologically, they are constantly beset by unforeseeable events with incalculable consequences. They appear to be fighting a losing battle. Moreover, in *Shikasta*, *The Sirian Experiments* and *Sentimental Agents*, the form of the novels shifts the reader's attention away from the imperial narrators to alternative discourses, often in the silences of others, which show up the unreliability of the agents' attempts to represent 'fact'. Along these lines, I have argued that the series builds up to and away from *The Making of the Representative for Planet 8*, speculative fiction making possible the recording of an alternative discourse – or what I have called a peripheral speculation, constructed at the limits of life itself.

I have analysed epigenetics in Lessing's space fiction in two ways: first, as an epistemological alternative to genetic reductionism, and second, as an analogy for considering the roles of chance and creativity in life itself. The principle vehicle of my critique has been what I have called 'epigenetic poiesis', which I defined as the representation of emergence out of the habitual and coded, while at the same time destabilising 'the biological' as a purely material

category or observable effects. Epigenetic poiesis makes it possible to discuss a theory of living laid out in literary and cultural texts that is not restricted to differentiated spheres of the political, social, economic and biological, but in which all of these realms of experience can be seen as altering and affecting change and inheritance. It is a way of describing the estrangement from one state to another. The particular innovation of Lessing's space fiction is that she works through this estrangement – a general characteristic of sf, and fiction more generally – by both estranging her readers from a cultural dogma around genetic inheritance and its attendant racisms, and by writing (genetic) change *as itself* a continual process of estrangement, the work of interpretation that continues past the point of conception, through which – by chance – other ways of being emerge.

Future work would develop this critical vehicle more broadly, in a comparative study of evolution by chance in modern literature and culture, and outline a transnational perspective. Starting with contextualising Jean Baptiste Lamarck's development of his theory of the inheritance of acquired characters in the emergence of public science in the early years of the French Republic, it would trace a literary and cultural history of 'creative evolution' as a belief-system, retaining Henri Bergson's insistence on the agency of living beings (rather than their passive evolutionary role), while suspending Lamarckian and Bergsonian teleology for Darwinian stochism. It would incorporate studies of the writing of biology in Soviet sf, and in Afrofuturism. It would offer a more thorough account of Charles Sanders Peirce's triadic semiotic in literature and culture, and its current popularity through biosemiotics, drawing on scholarship on pragmatism and literature. This would, in Giles Gunn's words, 'explor[e] the place that each similarly accords the imagination as an instrument both of knowing and of making' (41). Pragmatism, in the vein of Peirce, offers a philosophical engagement with the natural and physical sciences – that is, with material culture – that provides tools for developing an interdisciplinary framework for working between literary and material culture. This framework would enable analysis on the imaginative and unpredictable formation of belief-systems across disciplinary boundaries of philosophy, literature and the sciences,

rather than seeking to determine a general and reducible truth common within all of them.

A point of critical intersection for future work would be climate change literature, or ‘cli-fi’. Some of my arguments here have been based around the question of adaptation in moments of rapid climate change, which I have analysed as an analogy for economic and political crises. However, taking the prevailing concern with climate literally, Lessing’s space fiction can be read as an early intervention on the question of what is to be done in a rapidly-changing world ecology, where uneven socio-political development sets a precedent for the uneven way in which climate change is affecting different populations. How is biological adaptation registered in texts on climate change? Is there a catalogue of survival not just restricted to changing practices, but which also considers biological responses? For the sake of developing the theoretical argument about epigenetic poesis through these texts, there has not been space to engage more fully with ecocritical theory, such as Michel Serres’s concept of a ‘natural contract’ (1990) and Jason W. Moore’s formulation of ‘world-ecology’ in *Capitalism in the Web of Life* (2015). This would be particularly relevant for my reading of *Planet 8* in Chapter Four. Future work would include and build on this field of study, drawing together epigenetic arguments about adaptation and environment made here to ecocritical perspectives.

Contemporary writing on biology in sf registers anxieties around new biotechnologies of eugenics, surveillance and warfare. Joan Slonczewski and Michael Levy note,

In post-millennial sf, the band plays on for genetic engineers, with our breakthroughs in human cloning and stem cell research. Yet it also leaves us fearful of biological warfare, and wondering how our moral traditions of the past millennia will survive the technological challenges of this one. (185)

To take one example, genetic mapping as a security measure uses imperial cartography to identify and map groups distinguished as populations via

geography and anthropology. Genetic mapping promises to make invisible threats transparent, so that, for example, an Iraqi claiming to be a Syrian can show up at an EU border crossing. The quiet, decade-long hoarding of biometric data in Afghanistan and Iraq by the US military, which Iraqis ‘may be able to access via the US embassy in Baghdad’, but which may or may not have been gifted/sold to national and international security institutions around the world, is one example. Healthcare and security are bound through biological idealism to what Nikolas Rose and Carlos Novas call ‘political economies of hope’. They argue that biological citizenship is ‘a hopeful domain of activity, one that depends upon and intensifies the hope that the science of the present will bring about cures or treatments in the near future’ (452). In the case of genetic mapping, hope manifests through a general promise to secure an ostensibly transparent, legislated globe against hidden sources of contamination by making it visible and hoarding its information. Another theoretical intervention here would be Bruno Latour’s writing on the production of scientific knowledge in modernity, with regard to contemporary warzones and border crossings as new frontlines for the scientific laboratory.

These economies of hope are speculative, relying on the promise of a future that may or may not arrive, and the faith that new technologies will be used to benefit human life, rather than cause further problems. By exploring how scientific knowledge and biotechnologies have crept into governance during the modern period, Lessing’s space fiction stands as a caution against this hope, insisting on the way in which life itself tends to escape the boundaries assigned to it by technology. Exploring speculative technologies in the realm of speculative fiction, Lessing is able to show how, often, scientific knowledge becomes irrelevant, part of its own waste material. This is neither to negate the imaginative possibilities of science, or its importance, and nor is it symptomatic of a Luddite technophobia. Rather, Lessing draws us to the question of anomaly: how does the reduction of experience to the merely calculable fence off difference as exception, and how is this reduction continually interrupted by the vast flexibility of living systems?

To invoke a vital question asked by Hillary Rose and Stephen Rose, 'who benefits' from overlooking, not looking into, or ignoring the complexity of life itself, in favour of a reductionist account of DNA metaphors, 'hard-wiring, Darwinian natural selection and evolution' (276)? They write,

This deference to the determining authority of the life sciences spreads [to] philosophy, art, ethics, sociology, politics and law [which] all feel the need to position themselves for or against its claims. Does identity lie in the genes, the neurons, or the Pleistocene parts? Has the neoliberal self arrived, demanding that that Promethean promises of regenerative medicine deliver? (278)

Lessing's space fiction anticipates the arrival of the neoliberal subject as a speculative biopolitical construction, and a contemporary manifestation of interwar transhumanism. The novels situate this history in the modern legislation of humanity according to racial typologies, in which the progress of the liberal subject is conditional on the exclusion, subjugation and exploitation of others. Complicity in these transhumanist ambitions is far-reaching, by no means restricted to contemporary conservative and fascist ideology of racial and/or national purity. Privatised systems of healthcare have become a transnational standard, which will continue to exacerbate the uneven course of global development into the twenty first century.

Lessing's space fiction offers an alternative economy of hope. Canopus rises, but it also falls. The Planet 8ers come to a new understanding of themselves, unmoored from their epistemological and genetic programming by Canopus. Can engaging creatively with vital politics engender new kinds of ethical relations between humans and non-humans? Is a different version of the subject arising out of post-genomic knowledge, and how do literary and cultural texts register this shift, across art, media, film and TV? Crucially, how might the possible state regulation and legislation of challenges to reductionism be anticipated and circumvented? These are some questions that a broader consideration of bioeconomies and their challenges in the post-genomic context would address.

I have offered a series of readings on Lessing's space fiction – from *Memoirs* to *Sentimental Agents* – by suspending together what I read as their materialist history, theoretical and philosophical considerations, and their translation of scientific debates around evolution and inheritance in literary form. These readings have focused on the novels' speculative constructions of the 'human' subject out of the complexity of life itself. These readings are an intervention in previous scholarship on the novels, and Lessing studies more broadly, and I hope will contribute to an emerging field of research on epigenetics and literature.

## BIBLIOGRAPHY

### **DORIS LESSING**

*A Small Personal Voice: Essays, Reviews, Interviews*, New York: Alfred A. Knopf, 1974.

*Ben, in the World*. London: Flamingo, 2000.

*Briefing for a Descent into Hell*. London: Panther, 1971.

*Memoirs of a Survivor*. London: Vintage, 1988 [1974].

*Prisons We Choose To Live Inside*. London: Jonathan Cape, 1986.

*Shikasta*. London: Granada, 1980 [1979].

*The Fifth Child*. London: Flamingo, 1993.

*The Four-Gated City*. London: Granada, 1969.

*The Golden Notebook*. London: Fourth Estate, 2013 [1962].

*The Good Terrorist*. London: Fourth Estate, 2013 [1985].

*The Grass is Singing*. London: Fourth Estate, 2013 [1950].

*The Making of the Representative for Planet 8*. London: Flamingo, 1981.

*The Marriages Between Zones Three, Four and Five*. London: Flamingo, 1981.

*The Sentimental Agents in the Volyen Empire*. London: Flamingo, 1983.

*The Sirian Experiments*. London: Flamingo, 1980.

*The Wind Blows Away Our Words*. London: Picador, 1987.

*Walking in the Shade: Volume Two of my Autobiography, 1949-1962*, London: Flamingo, 1998.

### **OTHER WORKS**

Acar, Murat, Mettetal, Jerome. T. and van Oudenaarden, Alexander. 'Stochastic Switching as a Survival Strategy in Fluctuating Environments.' *Nature Genetics* 40 (2008): 471-475.

Adams, Mark B. 'Last Judgment: The Visionary Biology of J. B. S. Haldane,' *Journal of the History of Biology* 33 (2000): 57-491.



- Allen, Elizabeth, et al. 'Against "Sociobiology."' *The New York Review of Books*. August 1975. <http://www.nybooks.com/articles/1975/11/13/against-sociobiology/> Accessed April 18 2017.
- Apter, Emily. *Against World Literature: The Politics of Translatability*. New York: Verso, 2003.
- Aranova, Elena, Baker, Karen, and Oreskes, Naomi. 'Big Science and Big Data in Biology: From the International Geophysical Year through the International Biological Program to the Long Term Ecological Research (LTER) Network, 1957-Present.' *Historical Studies in the Natural Sciences* 40.2 (2010): 183-224.
- Arendt, Hannah. *The Human Condition*. Chicago: The University of Chicago Press, 1998 [1958].
- Arrighi, Giovanni. *The Long Twentieth Century: Money, Power and the Origins of Our Time*. London: Verso, 2009.
- . 'The African Crisis: World Systemic and Regional Aspects.' *New Left Review* 15 (2002): 5-36.
- Avery, John. *Progress, Poverty and Population*, London and Portland, Or.: Frank Cass, 1997.
- Ball, Philip. 'In Retrospect: *Brave New World*.' *Nature* 503 (2013): 338-339.
- Barbieri, Marcello. 'Life is Semiosis: The Biosemiotic View of Nature.' *Cosmos and History: The Journal of Natural and Social Philosophy* 4.1-2 (2008): 29-51.
- Barnard, Alan. *Anthropology and the Bushman*. Oxford: Berg, 2007.
- Baruch, Elaine Hoffman. *Women, Love, and Power: Literary and Psychoanalytic Perspectives*. New York: New York University Press, 1991.
- Bashford, Alison, and Levine, Philippa. [eds.], *The Oxford Handbook of the History of Eugenics*, Oxford: Oxford University Press, 2010.
- Bateson, Gregory. *Steps to an Ecology of Mind*. New York: Ballantine, 1972.

- Bauer, Susanne. 'Mutations in Soviet public health science: post-Lysenko medical genetics, 1969-1991.' *Studies in the History and Philosophy of Biological and Biomedical Sciences* 47.1 (2014): 163-72.
- . 'Population Genetics, Cybernetics of Difference, and Past in the Present: Soviet and post-Soviet maps on Human Variation.' *History of the Human Sciences* 28.5 (2015): 146-167.
- Benjamin, Andrew (ed). *Walter Benjamin and Art*. London: Continuum, 2005.
- Benjamin, Walter. *Charles Baudelaire: A Lyric Poet in the Era of High Capitalism*. Trans. Harry Zohn. London: Verso, 1997.
- . *Illuminations*. Trans. Harry Zohn. London: Pimlico, 1999.
- Bennett, Jane. 'The Agency of Assemblages and the North American Blackout.' *Public Culture* 17.3 (2005): 445-465.
- Beran, Dale. '4Chan: The Skeleton Key to the Rise of Trump.' *Medium*. Feb 14 2017. <https://medium.com/@DaleBeran/4chan-the-skeleton-key-to-the-rise-of-trump-624e7cb798cb> Accessed March 4 2017.
- Berger, John. 'Historical Afterword to the *Into Their Labours* Trilogy.' In: *Landscapes*. Tom Overton (ed.). London: Verso, 2016. 186-202.
- Bergson, Henri. *Creative Evolution*. London: Dover, 2003 [1907].
- Bethell, Tom. 'Against Sociobiology.' *First Things*. January 2001. <https://www.firstthings.com/article/2001/01/against-sociobiology> Accessed April 18 2017.
- Birney, Ewan. 'Why I'm sceptical about the idea of genetically inherited trauma.' *Guardian*. September 11 2015. [www.theguardian.com/science/blog/2015/sep/11/why-im-sceptical-about-the-idea-of-genetically-inherited-trauma-epigenetics](http://www.theguardian.com/science/blog/2015/sep/11/why-im-sceptical-about-the-idea-of-genetically-inherited-trauma-epigenetics) Accessed March 27 2017.
- Butler, Judith. *Frames of War*. London: Verso, 2009.
- . *Precarious Life*. London: Verso, 2003.
- Cacho, Lisa Marie. *Social Death: Racialized Rightlessness and the Criminalization of the Unprotected*. New York: New York University Press, 2012.

- Caplan, Alfred. *The Sociobiology Debate: Readings on Ethical and Scientific Issues*. New York: Harper and Row, 1985.
- Césaire, Aimé. *Notebook of a Return to a Native Land*. Trans. and Ed. Clayton Eshleman and Annette Smith. Middleton, Conn.: Wesleyan Poetry, 2001 [1939].
- Chattopadhyay, Kunal. 'The Rise and Fall of Environmentalism in the early Soviet Union.' *Climate and Capitalism*. November 2014. <http://climateandcapitalism.com/2014/11/03/rise-fall-environmentalism-early-soviet-union/> Accessed January 20 2017.
- Chen, Mel. 'Toxic Animacies, Inanimate Affections.' *GLQ: A Journal of Lesbian and Gay Studies* 17.2-3 (2011): 265-286.
- Chennells, Anthony. 'Lessing's Rhodesian Stories.' In: Sprague, 1990. 17-40.
- . 'Postcolonialism and Doris Lessing's Empires'. *Doris Lessing Studies*, 21:2 (2001): 4-11.
- Clinton, Hillary. 'Remarks in Recognition of International Human Rights Day'. Speech. Geneva, Switzerland, December 6, 2011. <http://photos.state.gov/libraries/belize/231771/PDFs/Remarks%20in%20Recognition%20of%20International%20Human%20Rights%20Day.pdf> Accessed online April 10 2017.
- Coleman, Nathaniel. 'Eugenics: The Academy's Complicity.' *Times Higher Education*. October 2014. <https://www.timeshighereducation.com/comment/opinion/eugenics-the-academys-complicity/2016190.article> Accessed April 18 2017.
- Comay, Rebecca. 'Resistance and Repetition.' *Research in Phenomenology* 45.2 (2015): 237-266.
- Cox, Murray, and Theilgaard, Alice. *Mutative Metaphors in Psychotherapy: The Aeolian Mode*. London: Tavistock Publications, 1987.
- Darwin, Charles. *The Origin of Species, and The Voyage of the Beagle*. New York: Alfred A. Knopf, 2003 [1859].
- Dawkins, Richard. *The Blind Watchmaker*. New York: Norton & Company, 1986.
- . *The Selfish Gene*. Oxford: Oxford University Press, 1990 [1976].

- De Saussure, Ferdinand. *Course in General Linguistics*. Trans. Wade Baskin. Ed. Perry Meisel and Haun Saussy. New York: Columbia University Press, 2011 [1959].
- DeJong-Lambert, William. *The Cold War Politics of Genetic Research: An Introduction to the Lysenko Affair*. New York: Springer, 2013.
- Deleuze, Gilles, and Guattari, Felix. *A Thousand Plateaus: Capitalism and Schizophrenia*. Trans. Brian Massumi. Minneapolis: University of Minnesota Press, 1987.
- Deleuze, Gilles. 'Postscript on the Societies of Control.' *October* 59 (1992): 3-7.
- Derrida, Jacques. *Edmund Husserl's Origin of Geometry: An Introduction*. Trans. John P. Leavey. Lincoln, Nebraska: University of Nebraska Press, 1978 [1962].
- . *Of Grammatology*. Trans. Gayatri Chakravorty Spivak. Baltimore: Johns Hopkins University Press, 1976.
- . *Rogues: Two Essays on Reason*. Trans. Pascale-Anne Brault and Michael Nass. Stanford: Stanford University Press, 2005.
- Di Pippo, Alexander. 'The Concept of Poiesis in Heidegger's *An Introduction to Metaphysics*.' *Thinking Fundamentals, IWM Junior Visiting Fellows Conferences*, Vol. 9. Vienna 2000
- Diski, Jenny. 'Doris and Me.' *London Review of Books* 37.1 (2015): 21-23.
- Dronomraju, K. R. *Haldane's Daedalus Revisited*. Oxford: Oxford University Press, 1995.
- Düttmann, Alexander. *The Memory of Thought: An Essay on Heidegger and Adorno*. London: Continuum, 2002.
- Eldredge, Niles, and Gould, Stephen Jay. 'Punctuated Equilibria: An Alternative to Phyletic Gradualism.' In: T. J. M. Schopf (Ed.) *Models in Paleobiology*. San Francisco: Freeman, Cooper and Co., 1973. 82-115.
- Eliot, T. S. *Collected Poems 1909-1962*. London: Faber and Faber, 2002.
- Fahim, Shadia. *Doris Lessing: Sufi Equilibrium and the Form of the Novel*. London: St. Martins Press, 1994.
- Fanon, Frantz. *The Wretched of the Earth*. Trans. Richard Philcox. London: Penguin, 2001 [1963].

- Federici, Silvia. *Caliban and the Witch: Women, the Body and Primitive Accumulation*. New York: Autonomedia, 2004.
- Fisher, Mark. *Capitalist Realism*. London: Zero, 2009.
- Fisher, Ronald A. *The Genetical Theory of Natural Selection*. Oxford: Oxford University Press, 2013 [1930].
- Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. Trans. Alan Sheridan. London: Penguin, 1977.
- . *Society Must Be Defended*. Trans. David Macey. New York: Picador, 2003.
- . *The History of Sexuality, Vol. I*. Trans. Robert Hurley. New York: Pantheon, 1978.
- Fox Keller, Evelyn. *A Feeling for the Organism: The Life and Work of Barbara McClintock*. San Francisco: W. H. Freeman and Company, 1983.
- . 'From Gene Action to Responsive Genome.' *Nurturing Genetics Symposium*. University of Leeds, Leeds (2014). Public Lecture.
- . *The Century of the Gene*. Harvard, Mass.: Harvard University Press, 2000.
- . *The Mirage of a Space between Nature and Nurture*, Durham & London: Duke University Press, 2010.
- Fracchia, Joseph, and Lewontin, Richard. 'Does Culture Evolve?' *History and Theory* 38.4 (1999): 52-78.
- Gaonkar, Dilip P (ed.). *Alternative Modernities*. Durham, North Carolina: Duke University Press, 2012.
- Galton, Francis. 'Eugenics, its definition, scope and aims.' *Sociological Papers* 1 (1904): 43-99.
- . *Hereditary Genius: An Inquiry into its Laws and its Consequences*. New York: Amherst, 2006 [1869].
- Garner, Steve. 'A Moral economy of whiteness: behaviours, belonging and Britishness.' *Ethnicities* 12.4 (2012): 445-464
- Gilroy, Paul. *There Ain't No Black in the Union Jack*. London: Routledge, 1987.
- Glover, Jayne. 'The Metaphor of the Horse in Doris Lessing's *The Marriages Between Zones Three, Four and Five*: An ecofeminist question?' *Current Writing: Text and Reception in Southern Africa*. April 2006.

- Godwin, William. *An Enquiry Concerning Political Justice and Its Influence on General Virtue and Happiness*, Vol. I, London: G. G. J. and J. Robinson, 1793.
- Gould, Stephen Jay. *The Structure of Evolutionary Theory*, Cambridge, Mass.: Harvard University Press, 2002.
- Gould, Stephen Jay, et al. 'The Politics of Sociobiology.' *The New York Review of Books*. May 1979. <http://www.nybooks.com/articles/1979/05/31/the-politics-of-sociobiology/> Accessed April 18 2017.
- Gould, Stephen Jay, and Lewontin, Richard. 'The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme.' *Proceedings of the Royal Society of London. Series B* 205.1161 (1979): 581-598.
- Graham, Loren. *Lysenko's Ghost*. Harvard University Press, 2016. Kindle Edition.
- Gunn, Giles. 'Is There a Pragmatist Approach to Literature?' *Complutense Journal of English Studies* 22 (2014): 41-49.
- Hacking, Ian. *The Taming of Chance*. Cambridge: Cambridge University Press, 1990.
- Hague, Angela. *Fiction, Intuition, and Creativity: Studies in Brontë, James, Woolf and Lessing*. Washington D. C.: The Catholic University of America Press, 2003.
- Haldane, J. B. S. 'A Mathematical Theory of Natural and Artificial Selection, Part I: Of Natural and Artificial Selection.' *Transactions of the Cambridge Philosophical Society* 23 (1934): 19-41.
- . 'A Mathematical Theory of Natural and Artificial Selection, Part X. Some Theorems on Artificial Selection.' *Genetics* 19.5 (1934): 412-429.
- . 'Possibilities of Evolution.' In: *The Inequality of Man*. London: Chatto and Windus, 1932. 78-96.
- . *Possible Worlds*. London: Chatto and Windus, 1929.
- . *Science and Everyday Life*, Allahabad: Kitab Mahal, 1945 [1939].
- Hamilton, Andy. 'Against the Belief Model of Delusion.' In: *Reconceiving Schizophrenia*. Man Cheung Chung, K. W. M. Fulford & George Graham (eds.). Oxford: Oxford University Press, 2007. 217-234.
- Hanson, Clare. 'A Catastrophic Universe: Lessing, Posthumanism and Deep History.' In: Brazil, Sergeant and Sperlinger, 2016. 164-180.

- . *Eugenics, Literature and Culture in Postwar Britain*. London: Routledge, 2013. Print.
- . 'Epigenetics, Plasticity and Identity in Jackie Kay's *Red Dust Road*.' *Textual Practice* 29.3 (2015): 433-452.
- . 'Reproduction, Genetics, and Eugenics in the Fiction of Doris Lessing.' *Contemporary Women's Writing* 1:1/2. December 2007. 171-184.
- Haraway, Donna. *When Species Meet*. Minneapolis: University of Minnesota Press, 2008.
- Heidegger, Martin. *Poetry, Language, Thought*. Trans. Albert Hofstadter. New York: Harper and Row, 1971.
- Hoffmeyer, Jesper. *Biosemiotics: An Examination into the Signs of Life and the Life of Signs*. Trans. Jesper Hoffmeyer and Donald Favareau. Ed. Donald Favareau. Scranton, PA.: University of Scranton Press, 2008. Print.
- Huxley, Aldous. *Brave New World*. London: Longman, 1991 [1932].
- Huxley, Julian. 'Knowledge, Morality, and Destiny.' *Psychiatry* 14.2 (1951): 129-151.
- . *Memories: Vols I & II*, London: George Allen and Unwin, 1978.
- Ignatiev, Noel. *How the Irish Became White*. London: Routledge, 1995.
- . 'The Point is not to Interpret Whiteness but to Abolish It.' *Racetractor.org*. April 1997. <http://racetractor.org/abolishthepoint.pdf> Accessed April 10 2017.
- Jablonka, Eve, and Lamb, Marion. *Evolution in Four Dimensions: Genetic, Behavioral, Symbolic and Epigenetic Variation in the History of Life*. Cambridge, MA: The MIT Press, 2005.
- James, Edward (ed). *The Cambridge Companion to Science Fiction*. Cambridge: Cambridge University Press, 2003.
- Kevles, Daniel. J. *In the Name of Eugenics*, New York: Alfred A. Knopf, 1985.
- Kingston, Christina, Irikana, Jackson, Kingston, Kato Gogo. 'The Impacts of the World Bank and IMF Structural Adjustment Programmes on Africa: The Case Study of Cote d'Ivoire, Senegal, Uganda, and Zimbabwe.' *Sacha Journal of Policy and Strategic Studies* 1.2. 110-130.
- Kirksey, S. Eben, and Helmreich, Stefan. 'The Emergence of Multispecies Ethnography.' *Cultural Anthropology* 25.4. 545-576.

- Laclau, Ernesto. and Mouffe, Chantal. *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*. London: Verso, 2001 [1985].
- Laing, R. D. *The Divided Self: An Existential Study in Sanity and Madness*. London: Penguin, 2010 [1955].
- Laughlin, Robert. *A Different Universe: Reinventing Physics from the Bottom Down*. New York: Basic Books, 2005.
- Le Guin, Ursula. 'Doris Lessing's First Sci-Fi Book Reads Like a Debut Novel.' *New Republic*. October 1979. <https://newrepublic.com/article/115631/doris-lessing-shikasta-reviewed-ursula-le-guin> Accessed April 18 2015.
- . 'Doris Lessing's Parochial Science Fiction.' *New Republic*. March 29 1980. <https://newrepublic.com/article/115629/doris-lessing-marriages-between-zones-three-four-and-five> Accessed April 18 2017.
- Levine, Philippa. 'Anthropology, Colonialism and Eugenics,' in: Bashford and Levine. 43-61.
- Locke, John. *Two Treatises of Government*. Ed. Peter Laslett. Cambridge: Cambridge University Press, 1988 [1689].
- Lotman, Mihhail. 'Peirce, Saussure and the Foundations of Semiotics.' *Sun-Yat Sen Journal of Humanities* 16 (2003). Print.
- Lowe, Celia. 'Viral Clouds: Becoming H5N1 in Indonesia.' *Cultural Anthropology* 25.4 (2010): 625-649.
- Lynch, Tom, Glotfelty, Cheryl, Armbruster, Karla. *The Bioregional Imagination: Literature, Ecology and Place*. Athens, GA: The University of Georgia Press, 2012.
- Lysenko, Trofim D. *Heredity and Its Variability*. Trans. Theodosius Dobzhansky. London: King's Crown Press, 1946.
- Malthus, Thomas R. *An Essay on the Principle of Population, or, A View of Its Past and Present Effects, Volume II, Fourth Edition*, London: J. Johnson, 1807.
- Marx, Karl, and Engels, Friedrich. 'Manifesto of the Communist Party.' In: Tucker Robert M (ed). *The Marx-Engels Reader*. New York: Norton, 1978. 469-500.
- Marx, Karl. *Capital: Critique of Political Economy Vol. I*. Trans. Ben Fowkes. London: Penguin, 1990 [1867].



- Maslen, Elizabeth. *Doris Lessing*. Plymouth: Northcote House, 1990. Print.
- Mayr, Ernst. 'Haldane's *Daedalus*.' In: Dronomraju (ed.). 83-4.
- Massey, Doreen. *Space, Place, and Gender*. Minneapolis: University of Minnesota Press, 1994.
- Mazumdar, Pauline. *Eugenics, Genetics and Human Failings*, London: Routledge, 1994.
- McClintock, Barbara. 'The Significance of Responses of the Genome to Challenge.' In: *Nobel Lectures, Physiology or Medicine 1981-1990*. Tore Frängsmyr and Jan Lindsten (eds). Singapore: World Scientific, 1993: 180-199.
- McKittrick, Katherine. *Sylvia Wynter: On Being Human As Praxis*. Durham, N. Carolina: Duke University Press, 2014.
- Merrell, Floyd. 'Semiotics and Literary Studies.' The Commens Encyclopaedia: The Digital Encyclopaedia of Peirce Studies, New Edition. Ed. M. Bergman and J. Queiroz (2002). Web. 1 June 2015.
- Mkandawire, P. Thandika, and Soludo, Charles C. (eds). *African Voices on Structural Adjustment*. Dakar: Africa World Press, 2003.
- Modood, Tariq. 'The Indian Economic Success: A Challenge to Some Race Relations assumptions.' *Policy and Politics* 19.3 (1991): 177-190.
- Moore, Jason W. *Capitalism in the Web of Life*. London: Verso, 2015.
- Morris, William. *News From Nowhere*. Oxford: Oxford University Press, 2009.
- Novas, Carlos, and Rose, Nikolas. 'Biological Citizenship.' In: *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems* Aihwa Ong and Stephen J. Collier (eds.). Oxford: Blackwell Publishing, 2007. 439-463.
- Paul, Diane B. 'A War on Two Fronts: J. B. S. Haldane and the Response to Lysenkoism in Britain.' *Journal of the History of Biology* 16.1 (1983): 1-37.
- Paul, Diane B. and Moore, James. 'The Darwinian Context: Evolution and Inheritance,' in: Bashford and Levine. 27-42.
- Pearson, Wendy. 'Science Fiction and Queer Theory.' In: Edward James. 149-160.
- Peirce, Charles Sanders. *Collected Papers* Vols. 1-6. Ed. Charles Hartshorne and Paul Weiss. Cambridge, MA: Harvard University Press, 1931-1935.

- . *The Essential Peirce, Volume I: Selected Philosophical Writings*. Ed. Nathan Houser and Christian J. W. Kloesel. Bloomington, IN.: Indiana University Press, 1992.
- . *The Philosophy of Peirce: Selected Writings*. Ed. Justus Buchler, New York and London: Kegan Paul, Trench, Trubner & Co., 1940.
- Peterson, Erik L. 'The Excluded Philosophy of Evo-Devo? Revisiting C. H. Waddington's Failed Attempt to Embed Alfred North Whitehead's "Organicism" in Evolutionary Biology.' *History and Philosophy of Life Sciences*. 33.3 (2011). 301-320.
- Peterson, Lorna M. 'A Case of Chronic Anachronisms: Doris Lessing and the USSR.' In: Sprague. 142-157.
- Pieterse, Jan Nederveen. 'Hybridity, So What? The Anti-Hybridity Backlash and the Riddles of Recognition.' *Theory, Culture & Society* 18.2-3 (2001): 219-245.
- Pray, Leslie. 'Transposable Elements, or Jumping Genes: Not Junk DNA?' *Nature Education* 1.1 (2008): 32.
- Punter, David. 'Lessing and Time Travel.' In: Brazil, Sergeant and Sperlinger. 129-136.
- Rabinow, Paul. 'Artificiality and Enlightenment: From Sociobiology to Biosociality.' In: *Anthropologies of Modernity: Foucault, Governmentality, and Life Politics*. Jonathan Xavier Inda (ed.). Oxford: Blackwell, 2008. 181-193.
- Rando, Oliver J., and Verstrepen, Kevin J. 'Timescales of Genetic and Epigenetic Inheritance.' *Cell* 128.4 (2007): 655-68.
- Rechavi, Oded. 'Guest List or Black List: Heritable Small RNAs as Immunogenic Memories.' *Trends in Cell Biology* 24.4 (2014). 212-20.
- Reynolds, Andrew. *Peirce's Scientific Metaphysics: The Philosophy of Chance, Law and Evolution*. Nashville: Vanderbilt University Press, 2002.
- Richardson, Angelique. *Love and Eugenics in the Late Nineteenth Century: Rational Reproduction and the New Woman*, Oxford and New York: Oxford University Press, 2003.
- Roll-Hansen, Nils. 'Eugenics and the Science of Eugenics.' In Bashford and Levine. 80-97.

- Rose, Hilary, and Rose, Steven. *Genes, Cells and Brains*. London, Verso: 2013.
- Rose, Nikolas. 'The Politics of Life Itself.' *Theory, Culture, Society* 18.6 (2001): 1-30.
- . *The Politics of Life Itself*. Princeton, NJ.: Princeton University Press, 2006.
- Rudling, Pers Anders. 'Eugenics and Racial Biology in Sweden and the USSR: Contacts Across the Baltic Sea.' *Canadian Bulletin of Medical History*. 31.1 (2014). 41-75.
- Ruse, Michael. *Sociobiology: Sense or Nonsense?* Dordrecht: D. Reidel, 1979.
- Sagan, Dorion. 'Introduction.' In: Jakob von Uexküll, Marina von Uexküll, Joseph D. O'Neil (trans). *A Foray Into the Worlds of Animals and Humans: With a Theory of Meaning*. Minneapolis: University of Minnesota Press, 2010.
- Schmitt, Carl. *The Concept of the Political*. Expanded Edition (1932). Trans. G. Schwab. Chicago: University of Chicago Press, 2007.
- Schneider, Laurence. *Biology and Revolution in Twentieth-Century China*. Oxford: Rowman & Littlefield, 2003.
- Sebeok, Thomas A. *Contributions to the Doctrine of Signs*. Lisse, Netherlands: Peter de Ridder Press, 1976.
- Sebeok, Thomas A. 'Foreword.' *Contributions to the Doctrine of Signs*. Lisse, Netherlands: Peter de Ridder Press, 1976.
- . *Signs: An Introduction to Semiotics*. Toronto: University of Toronto Press, 2001 [1994].
- Serres, Michel. *The Natural Contract*. Trans. Elizabeth MacArthur and William Paulson. Michigan: University of Michigan Press, 1995.
- Shapiro, Stephen, and Barnard, Philip. *Pentecostal Modernism: Lovecraft, Los Angeles and World-Systems Culture*. London: Bloomsbury, 2017.
- Simone, AbdouMalik. 'The Urban Poor and Their Ambivalent Exceptionalities: Some Notes from Jakarka.' *Current Anthropology* 56.11 (2015): 15-23.
- . 'What You See is Not Always What You Know: Struggles against Re-containment and the Capacities to Remake Urban Life in Jakarta's Majority World.' *South East Asia Research* 23.3 (2015): 227-244.
- Slonczewski, Joan, and Levy, Michael. 'Science Fiction and the Life Sciences.' In: Edward James. 174-185.

- Smith, Frederick E. 'The International Biological Program and the Science of Ecology.' *Proceedings of the National Academy of Sciences of the United States of America*. 60.1 (May 1968). 5-11.
- Smith, J. M. "Genetics, Evolution and Haldane," *The Quarterly Review of Biology* Vol. 67, No. 2, June 1992, pp 187-189.
- Solzhenitsyn, Alexander. *The Gulag Archipelago*. London: Harvill, 1986 [1973].
- Souvlis, George, and Čakardić, Ankica. 'Feminism and Social Reproduction: An Interview with Silvia Federici.' *Salvage*. October 2016. <http://salvage.zone/online-exclusive/feminism-and-social-reproduction-an-interview-with-silvia-federici/> Accessed Jan 10 2017.
- Spade, Dean, and Willse, Craig. 'Sex, Gender and War in a Age of Multicultural Imperialism.' *QED: A Journal in GLBQT Worldmaking* 1.1 (2014): 5-29.
- Spencer, Herbert. *Herbert Spencer on Social Evolution* (ed. J. D. Y. Peel). Chicago: University of Chicago Press, 1972.
- Spencer, Herbert. *Principles of Biology*. London: Williams and Norgate, 1864. Print.
- Sperlinger, Tom. 'Lessing's Interruptions.' In Brazil, Sergeant and Sperlinger. 137-151.
- Spivak, Gayatri Chakravorty. *Readings*. Calcutta: Seagull, 2014.
- Sprague, Claire, and Tiger, Virginia. *Critical Essays on Doris Lessing*. Boston: G. K. Hall & Co., 1986.
- Stapledon, Olaf. *Last and First Men*, London: Hatchette, 2012 [1930].
- Stengers, Isabelle. *Cosmopolitics I*. Trans. Roberto Bonnono. Minneapolis: The University of Minnesota Press, 2010.
- Suin, Darko. *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre*. New Haven: Yale University Press, 1979.
- Taylor, Jenny (ed). *Notebooks/Memoirs/Archives: Reading and Re-reading Doris Lessing*. London: Routledge & Kegan Paul, 1982.
- Thacker, Eugene. 'After Life: *De anima* and unhuman politics.' In: *Radical Philosophy* 155 (May/June 2009): 31-40. '

- . Biophilosophy for the 21<sup>st</sup> Century.’ in: *Critical Digital Studies: A Reader* Ed. Arthur Kroker and Marilouise Kroker. Toronto: University of Toronto Press, 2013. 132-142.
- United Nations, Sustainable Development Commission. ‘Sustainable Development Commission Hears Call For Reversing Trend Towards “Sustainable Underdevelopment”.’ ENV/DEV/410. 8 April 1997. <http://www.un.org/press/en/1997/19970408.endev410.html>. Accessed online 15 June 2016.
- Vidal, Gore. ‘Paradise Regained.’ In: Spague and Tiger, 200-204.
- Vlastos, Marion. ‘Doris Lessing and R. D. Laing: Psychopolitics and Prophecy.’ *PMLA* 91.2 (1976): 245-258.
- Waddington, Conrad Hal. *The Strategy of the Genes*. London: Routledge, 2014 [1957].
- Warner, Michael. ‘Introduction: Fear of a Queer Planet.’ *Social Text* 29 (1991), 3-17.
- Warwick Research Collective. *Uneven and Combined Development*. Liverpool: Liverpool University Press, 2015.
- Watkins, Susan. *Doris Lessing*. Manchester: Manchester University Press, 2010.
- Weismann, August. *Essays Upon Heredity and Kindred Biological Problems*. Ed. Edward B. Poulton, Selmar Schönland and Arthur E. Shipley. Oxford: Clarendon Press, 1889.
- Weizman, Eyal. *The Least of All Possible Evils: Humanitarian Violence from Arendt to Gaza*. London: Verso, 2011.
- Wells, H. G. *The Island of Doctor Moreau*. London: Penguin, 2005 [1896].
- Wheeler, Wendy. *The Whole Creature: Complexity, Biosemiotics and the Evolution of Culture*. London: Lawrence and Wishart, 2006.
- Whittaker, Ruth. *Doris Lessing*. London: Macmillan, 1988.
- Williams, James. ‘Barthes, Deleuze, and Peirce: Pragmatism in Pursuit of the Sign.’ *Deleuze and Pragmatism*. Simone Bignall, Sean Bowden and Paul Patton (eds.). London: Routledge, 2015. 38-54.
- Wilson, Edward Osborne. *Sociobiology: The New Synthesis*. Cambridge, MA: Harvard

Yehuda, Rachel, et al. 'Holocaust Exposure Induced Intergenerational Effects on *FKBP5* Methylation.' *Biological Psychiatry* 80.5 (2016): 373-380.